

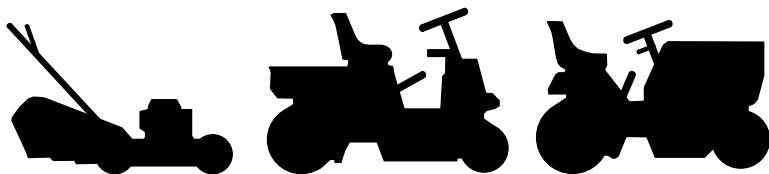
MOWER INSTRUCTION BOOK

Models
22" Self-Propelled

This Instruction Book contains information for several models.
Read and keep this book for future reference.
This book contains important information on
SAFETY, ASSEMBLY, OPERATION, AND MAINTENANCE.

PRODUCT INFORMATION

The owner must be certain that all
the product information is included with the unit.
This information includes
the INSTRUCTION BOOKS,
the REPLACEMENT PARTS and the WARRANTIES.
This information must be included to make sure state laws
and other laws are followed.



RECORD THE FOLLOWING INFORMATION ABOUT YOUR UNIT.
THIS INFORMATION IS NECESSARY WHEN ORDERING PARTS
OR IN CASE OF LOSS OR THEFT.

WHERE PURCHASED: _____.

DATE PURCHASED: Month _____ Day _____ Year _____.

MODEL NO.: _____ DATE OF MANUFACTURE: _____.



F-04041 1L

MURRAY, INC. Two Year Limited Warranty

Murray, Inc. warrants to the original purchaser that this unit shall be free from defects in material and workmanship under normal use and service for a period of **Two (2) Years** from the date of purchase; however, this warranty does not cover engines, accessories (such as snow blowers, snow blades, grass baggers and plows), transmissions, batteries and Normal Wear Parts (except as noted below) or transaxles as the companies that manufacture these items furnish their own warranties and provide service through their authorized field service facilities. For additional information, see the warranties covering these particular parts. If you are uncertain whether your unit contains or is equipped with one or more of these parts, consult your dealer prior to purchase. Subject to the terms and conditions noted in this Limited Warranty, we shall, at our option, repair or replace at no cost to the original purchaser any part covered by this Limited Warranty during the applicable warranty period.

In the event the battery proves defective within ninety (90) days from the date of purchase, we will replace it without charge. If the battery proves defective after (90) days but within one hundred twenty (120) days from the date of purchase, we will replace it for a charge of one half (1/2) of the retail price of the battery in effect at the time of return.

Normal Wear Parts are defined as belts, blades, blade adapters, pneumatic tires, headlights and seat covers. These parts are warranted to be free from defects in material and workmanship as delivered with the product. Any claim for repair or replacement of Normal Wear Parts must be made within thirty (30) days of the date of purchase. No claims involving damage caused from material use, abuse or misuse will be honored.

This **Murray, Inc. Two (2) Year Limited Warranty** is your exclusive remedy; however, this warranty is void or does not apply to any unit that has been tampered with, altered, misused, abused or used for rental or other commercial and/or professional (non-homeowner) uses. Your warranty does not cover minor mechanical adjustments which are not due to any defect in material or workmanship. For assistance in making such adjustments, consult your Instruction Book.

To make a claim under this **Murray, Inc. Two (2) Year Limited Warranty**, return the unit (or if authorized in advance, the defective part) along with your proof of purchase to an Authorized Service Center near you. To locate the nearest Authorized Service Center, call the Central Parts Distributor for your area shown in the list provided with your unit or check the Yellow Page listings in your local telephone directory. If you return the entire unit, we will repair the unit. If we authorize the return of the defective part only, we will either replace or repair the part. In the case of a defect in a transmission or differential (as distinguished from a transaxle), the entire transmission or differential must be returned since they do not include user serviceable parts.

This **Murray, Inc. Two (2) Year Limited Warranty** gives you specific legal rights, and you may also have other rights which vary from state to state. **This Limited Warranty is given in lieu of all other expressed and implied warranties including the implied warranty of merchantability and warranty of fitness for a particular purpose.** If you need additional information on this written warranty or assistance in obtaining service, call or write to the address below. The model number along with the CUSTOMER CARE Center 1-800 number is on the Model Number Nameplate attached to the unit.

MURRAY, INC.

Outdoor Power Equipment
Customer Service Department
P.O. Box 268
Brentwood, Tennessee 37027

OWNER'S INFORMATION

This instruction book is written for a person with some mechanical ability. Like most service books, not all the steps are described. Steps on how to loosen or tighten fasteners are steps anyone can follow with some mechanical ability. Read and follow these instructions before you use the unit.

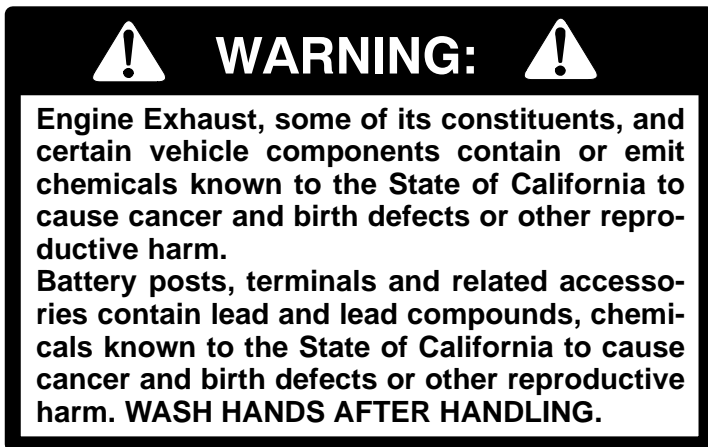
Know your product: If you understand the unit and how the unit operates, you will get the best performance. As you read this manual, compare the illustrations to the unit. Learn the location and the function of the controls. To help prevent an accident, follow the operating instructions and the safety rules. Keep this manual for future reference.

IMPORTANT: Many units are not assembled and are sold in cartons. It is the responsibility of the owner to make sure the assembly instructions in this manual are exactly followed. Other units are purchased in an assembled condition. On assembled units, it is the responsibility of the owner to make sure the unit is correctly assembled. The owner must carefully check the unit according to the instructions in this manual before it is first used.

RESPONSIBILITY OF THE OWNER

The responsibility of the owner is to follow the instructions below.

1. Carefully read and follow the rules for safe operation.
2. Follow all the assembly and preparation instructions.
3. Inspect the unit.
4. Make sure that the operator of the unit knows how to correctly use all standard and accessory equipment.
5. Operate the unit only with guards, shields, and other safety items in place and working correctly.
6. Correctly adjust the unit.
7. Service the unit only with authorized or approved replacement parts.
8. Complete all maintenance on the unit.



IMPORTANT

Safe Operation Practices for Walk-Behind Mowers.

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

I. General Operation

1. Read, understand, and follow all instructions on the machine and in the manual(s). Be thoroughly familiar with the controls and the proper use of the mower before starting.
2. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
3. Only allow responsible individuals, who are familiar with the instructions, to operate the mower.
4. Thoroughly inspect the mower and area where the equipment is to be used. Clear the area of objects such as rocks, toys, wire, bones, sticks etc., which could be picked up and thrown by the blade.
5. Be sure the area is clear of other people before mowing. Stop mower if anyone enters the area.
6. Do not operate the mower when barefoot or wearing open sandals. Always wear substantial foot wear.
7. Do not pull mower backwards unless absolutely necessary. Look down and behind before and while moving backwards.
8. Do not operate the mower without proper guards, plates, grass catcher or other safety protective devices in place.
9. See manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by the manufacturer.
10. Stop the blade(s) when crossing gravel drives, walks, or roads.
11. Stop the engine (motor) whenever you leave the equipment, before cleaning the mower or unclogging the chute.
12. Shut the engine (motor) off and wait until the blade comes to complete stop before removing grass catcher.
13. Mow only in daylight or good artificial light.
14. Do not operate the mower while under the influence of alcohol, drugs or other medication which can cause drowsiness or affect your ability to operate this machine safely.
15. Never operate mower in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk; never run.
16. Disengage the self-propelled mechanism or drive clutch on mowers so equipped before starting the engine (motor).
17. If the equipment should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble such as a blade that is damaged, a loose blade, or the engine mounting bolts are loose.
18. Always wear safety goggles or safety glasses with side shields when operating mower to protect your eyes from foreign objects which can be thrown from the unit.
19. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like.
20. After striking a foreign object, stop the engine. Remove the wire from the spark plug. Inspect the blade and mower for damage. If damaged, repair before starting and operating the mower.
21. Keep any washout ports and other mower housing service openings closed when mowing.

II. Slope Operation

Slopes are a major factor related to slip and fall accidents which can result in severe injury. All slopes require extra caution. If you feel uneasy on a slope, do not mow it.

DO:

Mow across the face of slopes; never up and down. Do not mow excessively steep slopes (maximum 15 degrees) or areas where the ground is very rough. See the "Guide" in the back of this manual to check a slope. Exercise extreme caution when changing direction on slopes.

Remove objects such as rocks, tree limbs, etc.

Watch for holes, ruts, or bumps. Tall grass can hide obstacles.

(Continued Following Page)

IMPORTANT

DO NOT:

Do not mow near drop-offs, ditches, or embankments. The operator could lose footing or balance.

Do not mow excessively steep slopes.

Do not mow on wet grass. Reduced footing could cause slipping.

III. Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and the mowing activity. *Never* assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under the watchful care of a responsible adult.
2. Be alert and turn mower off if children enter the area.
3. Before and while moving backwards, look behind and down for small children.
4. Never allow children to operate the mower.
5. Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

IV. Service

- *1. Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
 - a. Use only an approved container.
 - b. Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling. Do not smoke.
 - c. Never refuel the machine indoors.
 - d. Never store the machine or fuel container inside where there is an open flame, such as a water heater.
- *2. Never run an engine indoors or inside a closed area.
3. Never make adjustments or repairs to items such as the height adjusters or grass catcher with the engine (motor) running. Discon-

nect the spark plug wire, and keep the wire away from the plug to prevent accidental starting. Always wear eye protection when you make adjustments or repairs.

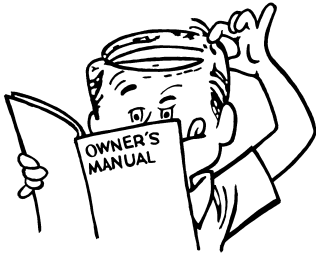
4. Keep all nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
5. Never tamper with safety devices. Check their proper operation regularly.
6. To reduce fire hazard, keep mower free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow mower to cool before storing.
7. Stop and inspect the equipment if you strike an object. Repair, if necessary, before re-starting.
8. Never attempt to make wheel height adjustments while the engine (motor) is running.
9. Always disconnect electric mowers (live operated) before cleaning, repairing, or adjusting.
10. Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary. For storage, always make sure grass catcher is empty.
11. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
12. Do not change the engine governor setting or over-speed the engine.
13. Frequently check the blade for wear or damages such as cracks and nicks. A blade that is bent or damaged must be immediately replaced with a factory replacement blade. For safety and good cutting performance, replace the blade every two years. Frequently check the blade bolt and the engine mounting bolts. Replace damaged bolts and tighten loose bolts.
14. Use only original equipment or authorized replacement parts.

* Asterisked items do not apply to electric mowers.

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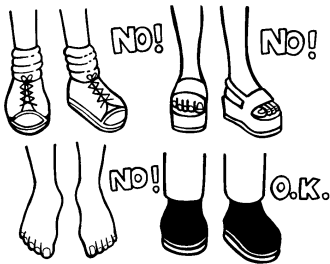
Every person who uses power equipment must learn the difference between proper and improper use, safe and unsafe mowing practices. **Read the next few pages carefully. They can help you learn.** Too often the mower user is inexperienced, not properly instructed, or has not read the Instruction Book and instructions on the unit before using it for the first time. This can result in unsafe use endangering the operator, bystanders, and the equipment. Another result can be a poor appearance of the area mowed.

Read this Instruction Book. Read the instructions on the unit. Operate the mower according to the Safe Mowing Guide and other safety rules and recommendations in this Instruction Book and on the unit. Make sure anyone who uses the unit has read the instructions and has been told how to operate the mower safely.



Your mower is designed to provide good service and durability in normal residential cutting. If the mower is not properly serviced and maintained or used on unsuitable terrain or in conditions not suitable for mowing, product performance and safety will be reduced.

Proper attire is an important part of safe mowing. Safety glasses protect the eyes from thrown objects. Safety shoes with steel toes can protect a foot from being cut by the blade. Shirts and pants that cover the arms and legs can stop or deflect a thrown object.



Practice using the mower before you actually begin cutting grass. Select a large open level area. Learn the location and function of the controls and how they work. It is important that the blade can be stopped quickly in an emer-

gency. Learn how to cut and how to keep control of the mower at all times.

Many mowers are started manually. When using a pull start or rope start, place your feet firmly and away from the blade. Hold the rope handle securely, but never wrap the rope around your arm or fingers for a "better grip".

The mower is designed for use by one person. Always mow alone. Never carry passengers. Carrying a passenger is dangerous for the passenger and the operator. A mower is not for amusement or for carrying objects.



Is the area you are planning to mow wet? Never cut a wet lawn. Cutting wet grass can cause an accident. It can affect mower performance and also cause problems with future lawn growth and appearance. Wet grass is slippery and might cause the operator to fall or the mower to slip. Someone could be hurt by touching the blade. Wet grass tends to clog the mower, causing poor discharge. Wet clippings bunch up on the lawn retarding the growth of grass. A wet mower can cause parts to rust and reduce the useful life of the unit.



When you look over the lawn, refresh your memory about hard, immovable obstacles such as pipes, stumps, and rocks and avoid them. They can cause damage to the mower or an accident injuring the operator or a bystander. Take a litter bag along and walk over the area to be cut. Pick up any stones, toys, wire, bones, or other loose objects. These items can damage the mower or they can become dangerous flying objects if the mower blade hits them. The blade of a power mower travels very fast. It can throw rocks and other objects with force over long distances. Objects thrown by mowers can break windows, cause

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bruises, or even put out an eye. Often the person hurt by a thrown object is a bystander such as a child, another family member or a neighbor. Keep people and pets completely away from the mowing area. Direct the mower's discharge away from areas where people can be. Planning your mowing pattern has a double benefit. It can reduce chances of an injury and make the clean up after mowing easier.

Are there ditches, walls, or major inclines in the area to be cut? Plan the mowing pattern to avoid such danger areas. Inclines and rough terrain must be mowed carefully and some areas must not be cut with a mower at all. With walk behind equipment, mow across the incline so that if you or the mower slip, you won't run into each other.



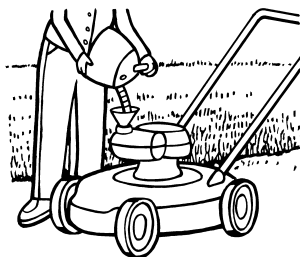
Never mow slopes greater than 15 degrees. See the "Guide" in the back of this Instruction Book to check any slopes.

Ready to start cutting? Not yet. Be sure the mower has been fully assembled according to directions in the Instruction Book. Even if assembly was done by a lawn and garden shop or the store where the unit was purchased, it must be checked. Are all nuts, bolts and screws tight? Does the engine have oil? These items must be checked periodically throughout the life of the mower.

Your mower has a gasoline engine. Gas is dangerous. Store fuel only in an approved gas container. Do not store large amounts of gas. Put out all cigarettes, pipes and cigars before working with gasoline. Store fuel and the mower itself in a well ventilated area away from any possible source of ignition such a pilot light on a furnace. If the mower is to be stored for an extended time, remove the gas from the tank. This minimizes the chance of a fire and keeps the tank clear of deposits and old gasoline, thus improving mower performance. Move the mower outside before adding gasoline. Use a funnel and wipe up any spilled fuel before starting. Remember, gasoline expands when heated so leave some expansion room. Also, most mower gas caps are vented to allow for expansion. Always use the proper cap. People are needlessly burned by fires, hurt in explosions, mowers and other property are damaged because of failure to follow basic safety rules related to gasoline and fueling.

Never add gasoline to an engine that is running or that is hot from recent use, this can cause an accident. Remove dry grass and other debris from the mower. Keeping the mower clean will

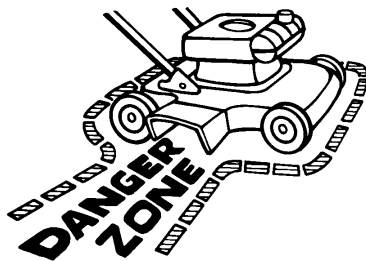
improve the performance, help the engine stay cooler, extend the life of moving parts, and minimize the danger of fire. People get burned working with and around their mowers for other reasons than fire and explosions. It takes only a few seconds of operation for the engine and the muffler to become hot. Do not touch these parts when the mower is running. Stop the engine and let it cool down before servicing the mower. Remember, exhaust fumes can be dangerous. Never operate the engine indoors or in an enclosed area.



Getting a new mower can be a big event for a family. Let family members satisfy their curiosity about the mower and at the same time, tell them about its dangers. Remember, a mower is not a toy and is not for use by children or anyone lacking in age, strength or experience.

As with any power equipment, a mower can be dangerous if not assembled, misused, or not properly maintained. The most important rule is to always use good judgement and common sense.

Your mower will cut thick grass and heavy plant stems with ease. Fingers and toes are no more resistant to the mower's blade. Many people are injured because they "forgot" and reached into the discharge chute. Always treat your lawn mower as if the blade is rotating. Never perform any service or try to make any adjustment, except carburetor, while the engine is running.



Use only accessories suited for your mower. Use of improper accessories can reduce the safety designed into both the mower and the accessory, it can even damage the unit. Read and follow the instructions which come with the accessory and the mower.

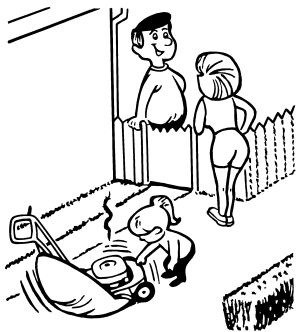
SAFE MOWING GUIDE

Use only original equipment or approved substitutions as service parts. If you need professional service, select a shop that is an Authorized Service Center for your brand of mower. If you plan to service the unit yourself, follow directions in the Instruction Book.



As you mow, remember children and pets are sometimes attracted to the activity. Be especially careful when trimming around shrubbery or when backing up. If at all possible, don't mow when moving backwards. It is dangerous because vision is restricted. Also, blades are designed to cut while the unit is moving forward so cutting performance is reduced when mowing in reverse.

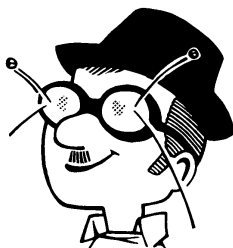
Never leave the mower running and unattended. Shut off the engine. Put the mower in a position so that it can not roll. If the unit is self-propelled, make sure the drive control is disengaged.



When mowing, be aware of your condition and the weather conditions. After mowing a long time, you will be tired. This is the time when reactions slow down, your attention wanders; the time when you are wide open for an accident. Take a short break. If temperatures are high, take precautions to avoid becoming dehydrated. If you are angry, tired, or unable to give your full attention to mowing, if you have been consuming alcohol, medicines, or drugs, do not use your mower or any type of power equipment.

If weather conditions become worse while you are cutting, stop and finish later. Cutting grass

in the rain is no fun and it is dangerous. Always seek shelter in an electrical storm. In extremely dry mowing conditions, your safety glasses can serve a dual purpose by protecting your eyes from dust and thrown objects, also a dust or pollen mask can be helpful.



Your mower is equipped with a number of safety features which are important to the safety of the operator and bystanders and must never be altered or removed. If a safety feature becomes inoperable, lost, or damaged, it must be repaired or replaced before the mower is used.

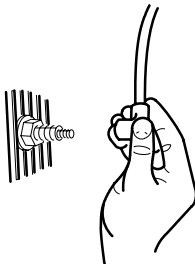
Engine speed is a key to safe mowing and a nice looking lawn. The maximum speed of the engine on your mower has been set at the factory. Do not change the engine governor in any way.

Select the maximum engine and ground speed that is right for the terrain and the height of grass. You get the best cutting and bagging performance when using a grass catcher by operating the engine at maximum speed. Never walk fast or run just to get the job done sooner. On inclines, reduce ground speed and exercise extreme care.

It is best to mow only during daylight hours; however, if you must mow in the late afternoon or evening, make sure there is good artificial light.

Your mower will require maintenance including service and adjustments before and after use as with any machine. The frequency of the maintenance is generally based on hours of use, however, the frequency can vary because of mowing conditions. Check the Instruction Book for more detailed instructions. Proper maintenance protects your investment in the mower and helps insure that it will function safely and reliably.

Never attempt any service (with the possible exception of carburetor adjustment) with the engine running. After turning the engine off, always disconnect the spark plug wire to prevent accidental restarting while the unit is being serviced.



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While mowing, if you hit a foreign object, stop the engine. Remove the spark plug wire. Carefully and thoroughly inspect the mower for damage. Make necessary repairs before re-starting. If the unit starts to vibrate abnormally, stop the engine immediately and check for the cause. Vibration is generally a warning of trouble. Keep all nuts, bolts, and screws tight.

The blade is the most dangerous part of the mower and also the most important part in obtaining a nice lawn appearance. Check the blade and the blade mounting hardware frequently. Keep it tight. If the blade hits a solid object, check it thoroughly for deformation or cracks and replace if damaged. For safety, replace the blade every two years. A sharp blade reduces the work load on the engine and cuts grass more cleanly, for a better looking cut with less work. The blade is always close to the outside of the mower housing. For best trimming on side discharge mowers, cut with the left side of the housing toward the area that needs trimming.

A useful accessory for your mower is a grass catcher. There are grass catchers available for most models. For best performance and safety, be sure the grass catcher is approved for use with your mower. Assemble as directed and follow operating and safety instructions with the catcher and in the Instruction Book.

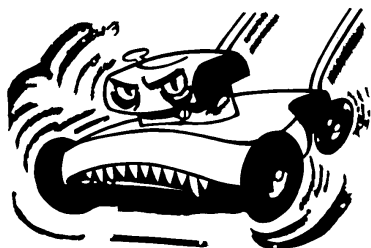
Before mounting, checking or emptying the grass catcher, always turn the engine off. Remember to check the grass catcher before each use for cracks, wear, or deterioration. Replace any part that is damaged with the manufacturer's recommended replacement part before using the grass catcher again.



Proper cutting technique is important if you want your lawn to look good. Avoid the temptation to cut grass too short. Cutting grass too short can kill the plant, cause grass to turn yellow, or make the lawn look brown and thatchy. Use the lower cutting heights in cool months when the grass is lush. Use the higher cutting heights in extremely dry periods. Cutting with a dull blade or low engine speed bruises, shreds, and can uproot some grass making the lawn look dull and brown a few days after cutting. Always put the throttle control in FAST

position when mowing and bagging. When bagging, slower ground speed will provide the best results.

Change the mowing pattern slightly each time you cut. If you always cut the same way, the grass will develop a "set" and clippings will accumulate more heavily in some areas more than in others causing grass to get thinner in those areas. Do not service your mower over the grass. Spilled oil and gas can kill the grass. In tall grass or very heavy grass, do not try to cut it all at once. Raise the height of cut on the first cutting and lower it for the next cutting the same day or within a few days. Another way is to cut only part of the width of the mower and adjust your ground speed (not the engine) to move more slowly so the mower can clear itself as it moves forward.



When cutting with a walk behind mower, always push the unit. Do not pull it. Pushing the unit keeps the operator behind the mower in the "operator's zone" for better control. Pushing the unit also gives you a chance to see exactly where and what you are mowing. There will be times while you are mowing that you will have to pull the mower backwards (such as when the front of the mower has come up against a wall or fence). If you must back up, make sure your feet are in the clear. Stand well back from the mower, plant your feet firmly with each step and back up being careful to look behind you. Resume normal mowing as soon as possible.

If your unit is self-propelled, remember that the drive mechanism is not designed to do all the work, but the unit can move without your help. Always keep your hands on the handle near the controls when the engine is running. Remember too that the self-propelled mechanism can be dangerous. Keep hands and feet away from belts and chains. Always turn off the engine before attempting to remove anything that becomes entangled in the self-propelled system.

Remember, your mower is a useful tool, but it can be dangerous. Follow the instructions in this Instruction Book. Use the mower properly and carefully and it will give you many hours of trouble free, accident free operations.

STEPS TO FOLLOW

BEFORE MOWING

- Be sure to dress correctly. Wear hard shoes, not sandals or tennis shoes.
- Examine the blade. A blade that is bent, cracked, or damaged must be replaced with a factory replacement blade.
- Fill the fuel tank outside. Clean off spilled fuel.
- Read and follow the Owner's Manual, the instructions with the engine, and the instructions with any attachments. Owner's Manual instructions are for your safety and the safety of others.
- Exhaust fumes are dangerous. Start the engine outside.
- Make sure all safety devices are in place and working correctly.
- Operation of the mower is only for a person that has experience.
- Wet grass can be dangerous. Let the grass dry.
- Instruct children and others to keep away from the work area.
- Never cut the grass without good light.
- Pick up loose objects. Remove them from the mowing area.

WHILE MOWING

- Watch for fixed objects and avoid them. They can damage the mower or cause injury.
- A hot engine and muffler will cause a burn. Do not touch.
- Inclines and slopes must be carefully mowed. See the "Guide" in the back of this book to check a slope.
- Lack of daylight or good artificial light is cause to stop mowing.
- Examine the mower, the blade, and other parts for damage after hitting a foreign object or if the unit vibrates excessively.
- Do not make adjustments or repairs without stopping the engine (except for carburetor). Disconnect the spark plug wire.
- On or near roads, watch out for traffic. Direct discharge away from roads.
- When mowing, avoid areas where traction is unsure. Before and while moving backwards, look behind and down for small children.
- In heavy grass, raise the cutting height. Cut slower. Stop the engine to remove clogged grass from the mower.
- Never remove any safety related parts.
- Do not pour gasoline into a engine that is hot or running.

AFTER MOWING

- Always let the mower cool before storing in an enclosed area.
- Foreign material on the mower is dangerous. Clean off grass, leaves, grease and oil before storing.
- Tighten all loose nuts, bolts and screws before you use the unit.
- Empty and clean any grass catcher or other accessory.
- Remove the key or disconnect the spark plug wire to prevent unauthorized use.
- Make sure the mower is not kept near a source of ignition. Gas fumes can cause an explosion.
- Only original parts or factory approved substitutes can be used to service the mower.
- When storing the mower for an extended period, remove the fuel from the fuel tank.
- Instruct children to leave the mower alone. It is not a toy.
- Never keep gasoline near a source of ignition. Always use an approved container. Keep gasoline away from children.
- Lubricate according to the Instruction Book. See "Lubrication".

IMPORTANT--Read the Instruction Book. Keep this book for future use and reference.



WARNING: Look for this symbol to point out important safety precautions. It means: "Attention! Become Alert! Your Safety Is Involved."

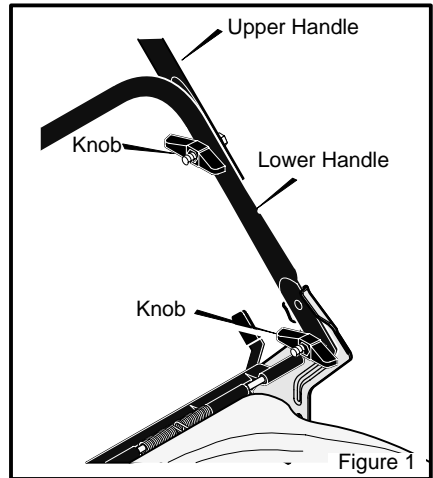
PREPARATION

UNPACKING INSTRUCTIONS

The mower was fully assembled at the factory. When the mower was put in the carton, the handle was put in the storage position. To put the handle in the operating position, follow the steps below.

Handle

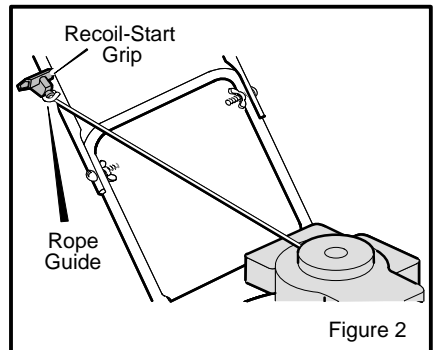
1. Remove the mower from the carton.
2. Put the **lower handle** in the operating position. Make sure the **lower handle** is between the **locking tabs** (Figure 1).
3. Put the **upper handle** in the operating position. Tighten the **knobs**.



CAUTION: Be careful when you fold or raise the handle. Do not damage the cables. A cable that is bent will not work correctly. Before you use the unit, replace a bent or damaged cable.

4. To attach the **recoil-start grip** to the **rope guide**, twist the rope through the **rope guide** mounted on the right side of the handle (Figure 2).

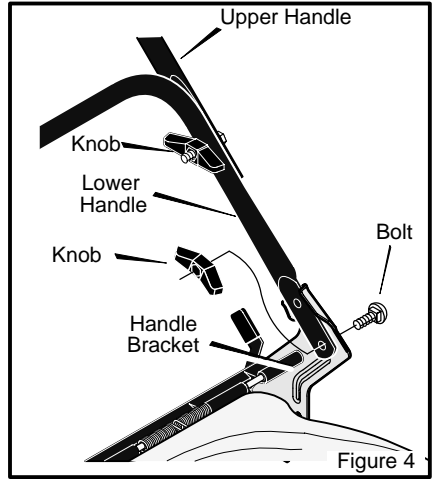
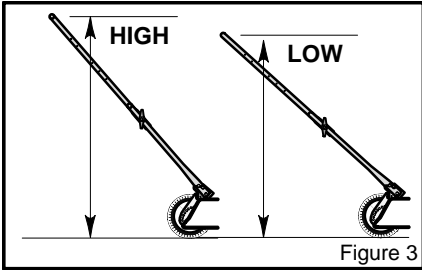
NOTE: If you cannot attach the recoil-start grip because the rope is too short, hold the engine stop lever against the handle. Slowly pull the recoil-start grip.



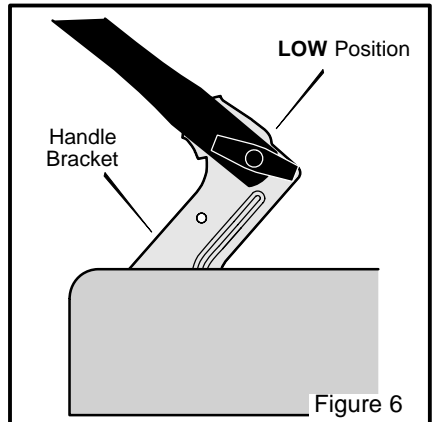
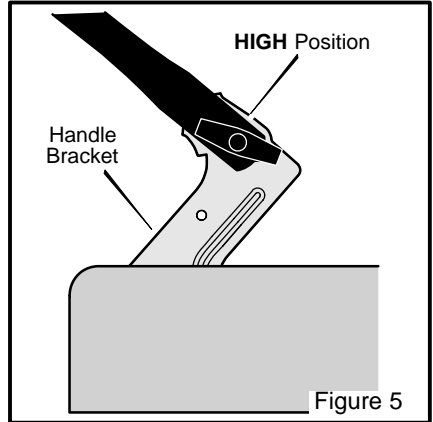
PREPARATION

HOW TO ADJUST THE HANDLE HEIGHT

The **handle bracket** has two assembly positions. A **HIGH** and a **LOW** position (Figure 3). The **HIGH** position will raise the handle approximately four inches.



1. Remove the **knobs** and **bolts** from the right and left **handle brackets** (Figure 4).
2. To raise the handle, mount the **lower handle** in the **HIGH** position shown in Figure 5.
3. To lower the handle, mount the **lower handle** in the **LOW** position shown in Figure 6.
4. Attach the **lower handle** to the **handle brackets** with the **bolts** and **knobs**. (Figure 4).

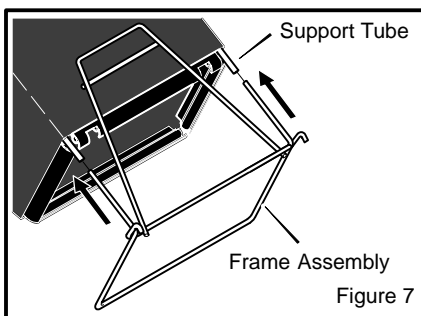


PREPARATION

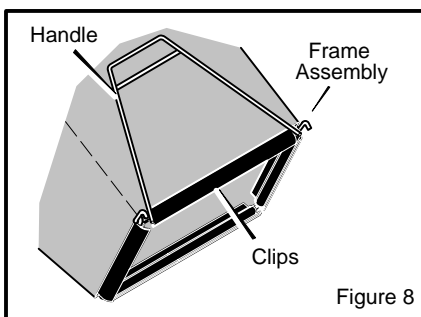
MODELS WITH OPTIONAL GRASS BAG

HOW TO ASSEMBLE THE GRASS BAG

1. Slide the **frame assembly** into the ends of the **support tube** (Figure 7).

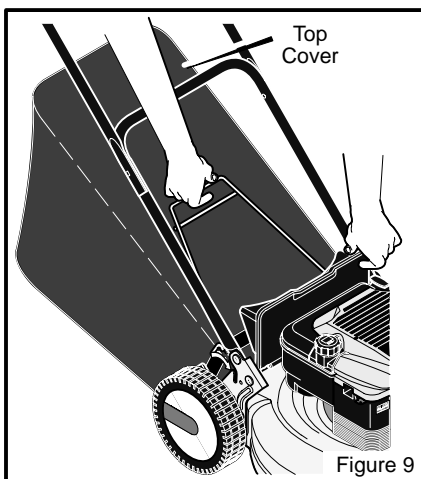


2. Make sure the **handle** is on the outside of the grass bag (Figure 8).



3. Attach the **clips** to the **frame assembly** (Figure 8).

4. Close the **top cover**. When operating the mower with the grass bag, the **top cover** must be in the closed operating position (Figure 9).



PREPARATION

MODELS WITH OPTIONAL GRASS BAG

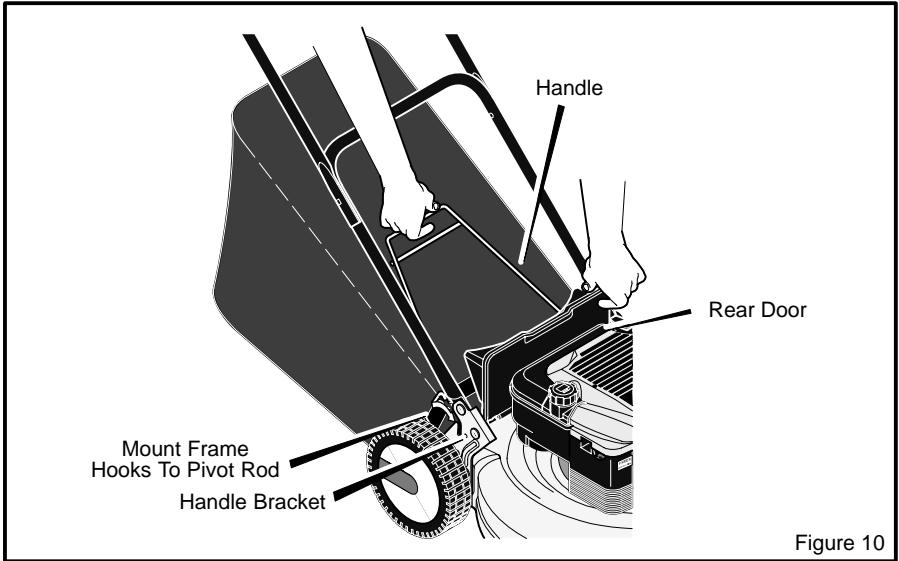
HOW TO MOUNT THE GRASS BAG

1. To mount the grass bag on the mower, raise the **rear door**. Hold the **handle** of the grass bag. Put the grass bag in the operating position (Figure 10). Lower the **rear door**.

IMPORTANT: Make sure the hooks, on each side of the frame assembly, are mounted on the pivot rod.



WARNING: Do not use the grass bag unless the cover is in the operating position.

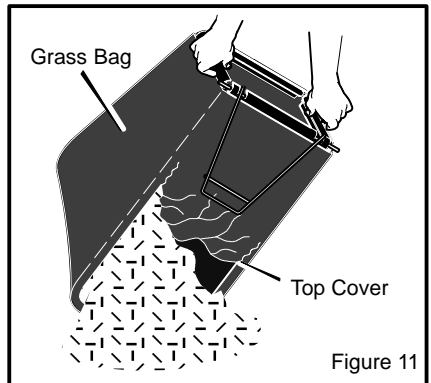


HOW TO EMPTY THE GRASS BAG



WARNING: Before you remove the grass bag, stop the engine. Before you remove any grass from the mower housing, disconnect the wire from the spark plug.

1. Hold the **rear door**. Raise the **rear door** to a vertical position (Figure 10).
2. Lift the **frame assembly** over the two handle notches.
3. Open the **top cover** (Figure 11). Empty the grass from the **grass bag**.
4. To mount the **grass bag** on the mower, see "How To Mount The Grass Bag".



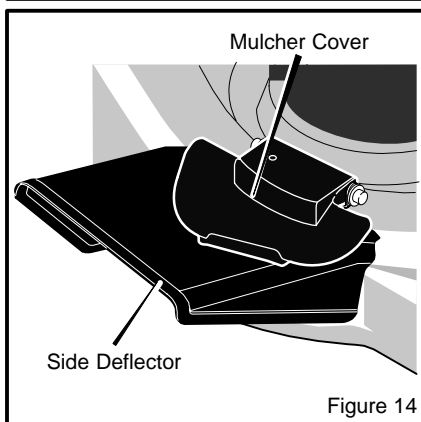
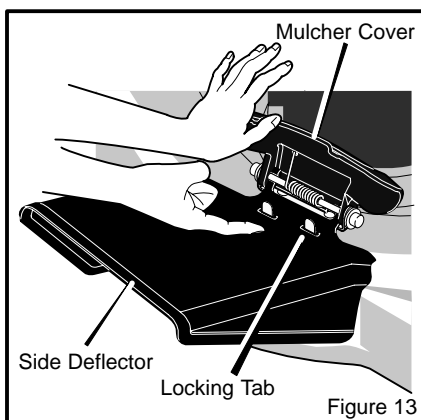
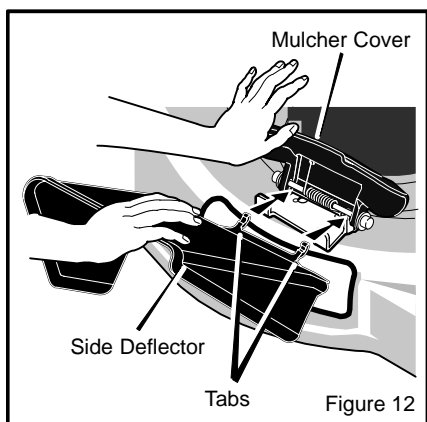
PREPARATION

HOW TO ATTACH THE SIDE MOUNTED DISCHARGE DEFLECTOR



WARNING: To prevent the engine from starting, disconnect the wire from the spark plug.

1. Raise the **mulcher cover** (Figure 12).
2. Slide the two tabs on the side deflector under the pivot pin.
3. Lower the side deflector. Make sure the locking tab goes through the slot in the side deflector (Figure 13).
4. Lower the **mulcher cover** (Figure 14).



MULCHING TIPS

Mulching finely cuts the grass so that the grass can be easily recycled. Because the nutrients are returned to the soil, the lawn will need less fertilizer. To correctly mulch the lawn, follow the tips below.

- The grass must be dry. If the grass is wet, it will be difficult to cut and cause heavy clumps of grass.
- The grass must not be too tall. The maximum height to effectively cut is 4 1/2 inches. Set the height adjusters so that only the top third of the grass is cut.
- If the grass is more than 4 1/2 inches high, two mowings will be necessary. For the first mowing, set the height adjusters in the highest position. Then, lower the height adjusters for the second mowing.

- Keep a sharp edge on the blade. A blade that is not sharp will cause the ends of the grass to become brown.
- Clean the underside of the mower housing. Grass and other debris can keep the mower from working correctly.

If the quality of cut is marginal, try the following:

- Set the height adjusters at a higher cutting height.
- Cut the grass more frequently.
- Operate the mower at a slower ground speed.
- Overlap the cutting swaths instead of cutting a full swath with each pass.
- Mow across the marginal areas a second time.

PREPARATION

ELECTRIC START MODELS

When the mower was shipped from the factory, the battery was not fully charged. Before the first use, the battery must be charged for 16 hours. See "How To Charge The Battery" in the Maintenance section.

HOW TO PREPARE THE ENGINE

ENGINE DOES NOT CONTAIN
OIL OR GASOLINE

See the engine manufacturer's instructions for the type of gasoline and oil to use. Before you use the unit, read the information on safety, operation, maintenance, and storage.



WARNING: Follow the engine manufacturer's instructions for the type of gasoline and oil to use. Always use a safety gasoline container. Do not smoke when adding gasoline to the engine. When inside an enclosure, do not fill with gasoline. Before you add gasoline, stop the engine. Let the engine cool for several minutes.

IMPORTANT: This unit is equipped with an internal combustion engine and must not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it must be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. See an Authorized Service Center for a spark arrester for the muffler.

ENGINE TIPPING

When you service the engine, inspect the blade, or clean the underside of the mower housing; make sure to always tip the engine with the spark plug up (see Figure 15). Transporting or tipping the engine with the spark plug down will cause:

- Hard starting.
- Engine smoking.
- Spark plug fouling.
- Oil or gas saturation of the air filter.

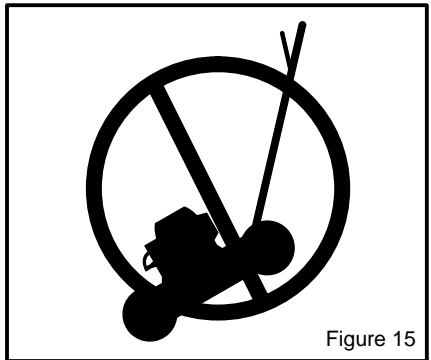


Figure 15

IMPORTANT: Actual sustained horsepower will likely be lower due to operating limitations and environmental factors.

FINAL ASSEMBLY

Before you use the mower, check the assembly of the wheels, the handle, and the controls. Make sure all the fasteners are tight. Make sure the throttle control and the engine stop lever work correctly.

OPERATION

ENGINE STOP LEVER

Release the **engine stop lever** and the engine and the blade will automatically stop. To run the engine, hold the **engine stop lever** in the **Operating position** (Figure 17).

Before you start the engine, operate the **engine stop lever** several times. Make sure the cable moves easily.

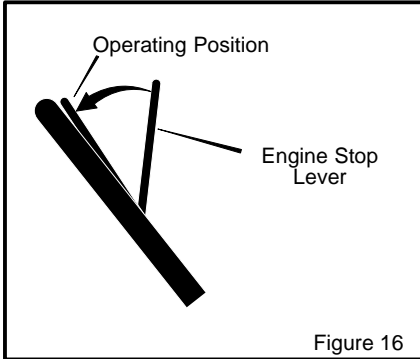


Figure 16

FRONT WHEEL DRIVE SYSTEM

The mower has a front wheel drive system. Operate the drive system as follows.

1. Hold the **engine stop lever** in the **Operating Position** (Figure 16 and Figure 17).
2. Push the **drive lever** completely forward. When the **drive lever** clicks, release the **drive lever**. The drive system is now engaged.

NOTE: To stop the engine, release the engine stop lever.

3. To disengage the drive system and stop the engine, completely release the **engine stop lever**.
4. To disengage only the drive system, release the **engine stop lever** approximately two inches. The drive system will disengage but the engine will continue to run.

NOTE: When the drive system is disengaged on a new unit, it is possible for the front wheels to rotate if lifted off the ground. This is normal and will stop after one or two hours of operation.

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WARNING: For safe operation, the drive system must immediately disengage when the drive lever is released. If the drive system does not disengage correctly, do not operate the mower until the drive system is adjusted or repaired by an authorized service center.

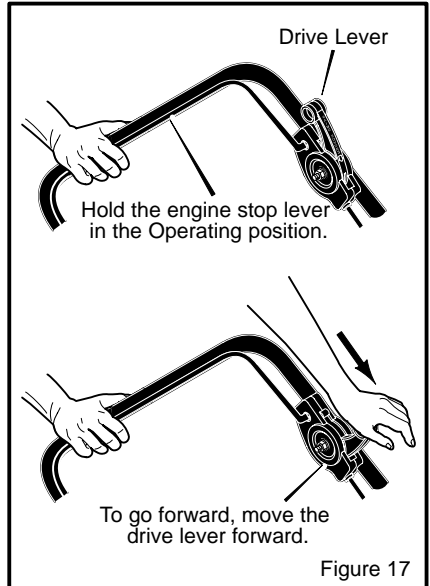


Figure 17

HOW TO STOP THE ENGINE

To stop the engine, release the **engine stop lever**. Disconnect the wire from the spark plug to prevent the engine from starting. On models equipped with an electric start engine, remove the key from the key switch. Keep the key away from children.

If the engine will not stop, hold a screwdriver against the spark plug and against the engine cooling fins. The spark will go to ground and the engine will stop. Before you start the engine, check the engine stop cable. Make sure the engine stop cable is assembled correctly. Before you operate the unit, replace a bent or damaged engine stop cable.

OPERATION

HOW TO START ENGINE



WARNING: The blade will rotate when the engine runs.

IMPORTANT: Before you start the engine, operate the engine stop lever several times. Make sure the engine stop cable moves freely.

NOTE: The engine design does not include a throttle control or an engine speed adjustment. The engine is set at the best speed for cutting grass, bagging grass, and for extended engine life.

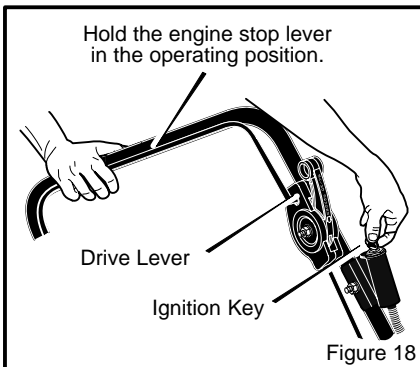
1. Check the oil.
2. Fill the fuel tank with regular unleaded gasoline. Make sure the gasoline is clean. Leaded gasoline will increase deposits and shorten the life of the valves.

NOTE: Do not use gasohol or methanol. Do not use premium unleaded gasoline.



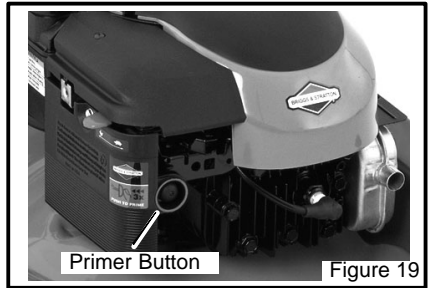
WARNING: Always use a safety gasoline container. Do not smoke when adding gasoline to the fuel tank. When inside an enclosure, do not add gasoline. Before you add gasoline, stop the engine and let the engine cool for several minutes.

3. Make sure the spark plug wire is connected to the spark plug.
4. **Electric Start Models:** Make sure the battery is connected to the wiring harness.
5. Make sure the **drive lever** is in the **DISENGAGED** position (Figure 18).



WARNING: To prevent an accident, make sure the drive lever is in the **DISENGAGED** position. When the drive lever is in the **ENGAGED** position, do not start the engine.

6. Some models have a **primer button** on the front or side of the engine (Figure 19). Every time you push the **primer button**, wait two seconds. For the number of times required to push the **primer button**, see the engine manufacturer's instructions.



NOTE: Do not use the primer button to start a warm engine.

7. Stand behind the mower. Hold the **engine stop lever** in the **OPERATING** position (Figure 18).
8. **Electric Start Models:** Turn the **ignition key** to the **START** position. Use short starting cycles (15 seconds per minute). When the engine starts, release the **ignition key**. If the engine will not turn over, charge the battery. See "How To Charge The Battery".
9. **Recoil-Start Models:** Rapidly pull the **recoil-start grip**. Slowly return the **recoil-start grip**.
10. If the engine does not start in 5 or 6 tries, See the "Problem and Repair" Instructions.

HOW TO OPERATE THE MOWER



WARNING: Check the condition of the grass bag for wear or deterioration. If worn or damaged, replace the parts only with approved factory replacement parts. For replacement parts, see the parts list in this book.

To completely fill the grass bag, operate the engine with the throttle control in the **FAST** position.

MAINTENANCE

ELECTRIC START MODELS

HOW TO CHARGE THE BATTERY



WARNING: The battery contains sulfuric acid which is harmful to the skin, eyes and clothing. If acid gets on the body or clothing, wash with water. Do not attempt to open the battery. If the battery has a crack, replace the battery. Do not burn a damaged or old battery or an explosion can result.



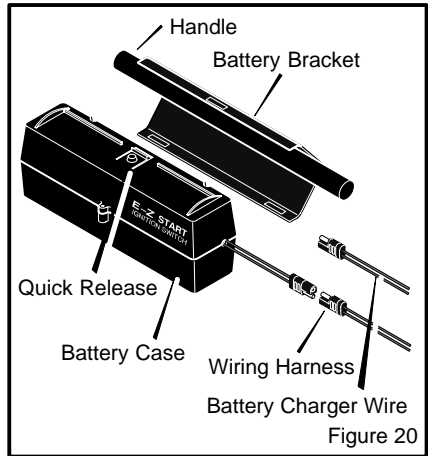
WARNING: When you charge the battery, do not smoke. Keep the battery away from any sparks. The fumes from the battery acid can cause an explosion.

The battery is in the battery case mounted on the handle. To charge the battery, remove the battery case from the handle.

IMPORTANT: Make sure to use the battery charger supplied with the mower. The use of any other battery charger will damage the battery.

1. Disconnect the **wiring harness** from the battery (Figure 20).
2. Push the **quick release** on top of the **battery case**. Remove the **battery case** and battery from the **handle**.
3. Attach the **battery charger wire** to the battery. Connect the battery charger to an electrical outlet.

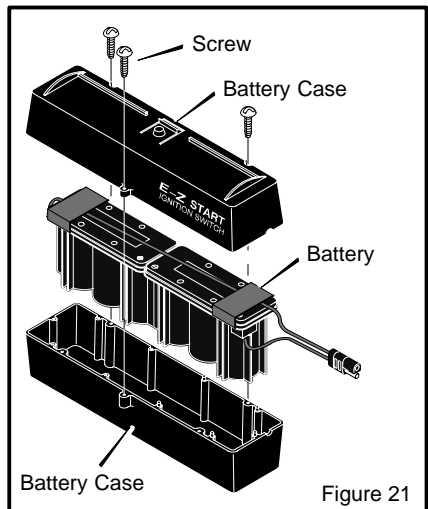
4. Charge the battery for 16 hours.
5. Disconnect the battery charger from the electrical outlet and from the battery.
6. Align the two tabs on the bottom of the **battery case** with the two holes in the **battery bracket**. Rotate the **battery case** until the **quick release** locks the battery in the **OPERATING** position.
7. Connect the **wiring harness** to the battery. If the battery will not be used for a long period of time or during storage, do not connect the wiring harness to the battery.



HOW TO REMOVE THE BATTERY

If the engine will not turn over or turns over slowly when the key is turned on, charge the battery. See "How To Charge The Battery". If the battery will not charge fully and will not start the engine, replace the battery as follows.

1. Disconnect the **wiring harness** from the battery (Figure 20).
2. Push the **quick release** on top of the **battery case**. Remove the **battery case** and battery from the **handle**.
3. To open the **battery case**, remove the three screws. Remove the **battery** from the **battery case** (Figure 21).
4. Replace the battery with an authorized factory replacement battery.
5. Charge the new battery for 16 hours. See "How To Charge The Battery".
6. To install the battery, reverse the above steps.



MAINTENANCE

ENGINE MAINTENANCE

Use the following maintenance section to keep your unit in good operating condition. All the maintenance information for the engine is in the "Engine Instruction Book". Before you start the engine, read this book.



WARNING: Before you make an inspection, adjustment (except carburetor), or repair, stop the engine and disconnect the wire from the spark plug.

ENGINE TIPPING

When you service the engine, inspect the blade, or clean the underside of the mower housing; make sure to always tip the engine with the spark plug up (see Figure 22). Transporting or tipping the engine with the spark plug down will cause:

- Hard starting.
- Engine smoking.
- Spark plug fouling.
- Oil or gas saturation of the air filter.

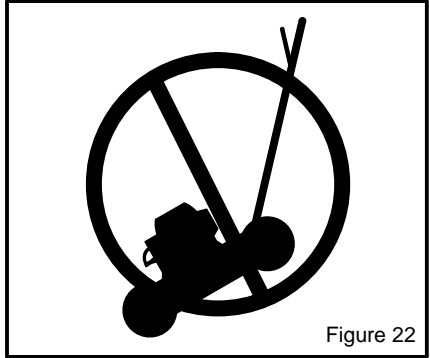


Figure 22

HOW TO CLEAN THE MOWER HOUSING



WARNING: The blade will rotate when the engine runs. Before you clean the mower housing, stop the engine and disconnect the wire from the spark plug.

Grass and other debris can keep the mower from working correctly. After you mow, clean the mower housing as follows.

1. Stop the engine.
2. Disconnect the wire from the spark plug.
3. Clean the top and the bottom of the mower housing.

LUBRICATION

1. For maximum performance, lubricate the wheels and all pivot points with engine oil every 25 hours.
2. To lubricate the engine, refer to the "Engine Instruction Book".

NOTE: Do not lubricate the engine stop cable. Lubricants will damage the cable and prevent the cable from moving freely. Replace the cable if bent or damaged.

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HOW TO ADJUST THE HEIGHT OF CUT



WARNING: The blade will rotate when the engine runs. Before you change the height of cut, stop the engine and disconnect the wire from the spark plug.

To change the height of cut, move the position of the **adjuster arm** at each wheel (Figure 23). Make sure each **adjuster arm** is in the same position so that the mower will cut level.

1. Disengage the **adjuster arm**.
2. Move the **adjuster arm** to another position.

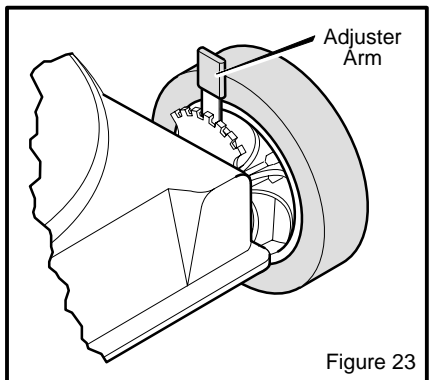


Figure 23

MAINTENANCE

HOW TO REMOVE THE DRIVE BELT

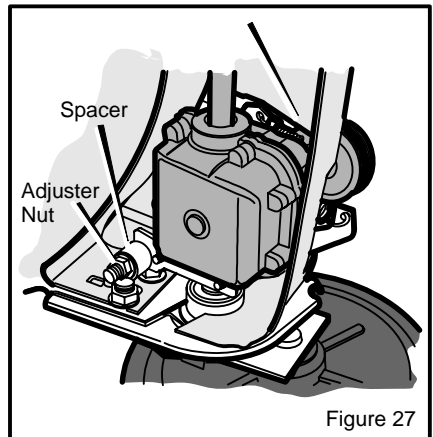
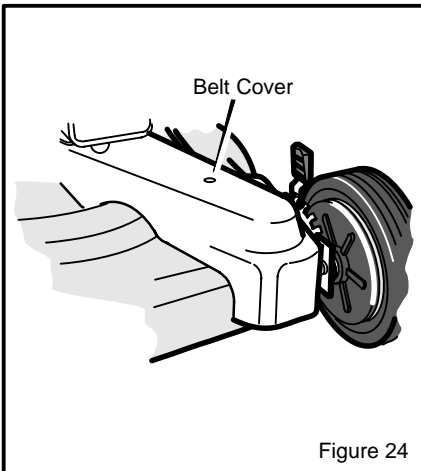
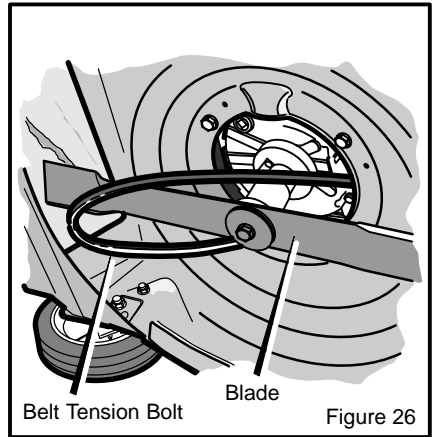
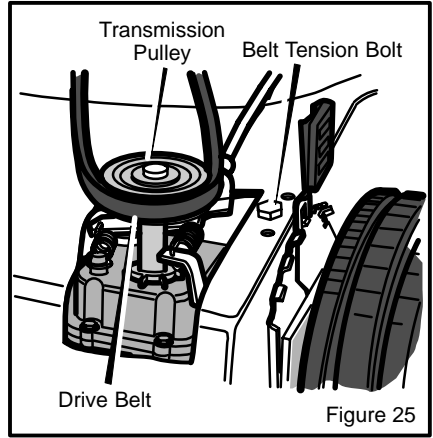


WARNING: Before you remove the belt, disconnect the wire from the spark plug.

1. Remove the **belt cover** (Figure 24).
2. Loosen the **belt tension bolt** (Figure 25).
3. Remove the front of the **drive belt** from the **transmission pulley**.
4. To remove the rear of the **drive belt**, slip the **drive belt** over the end of the **blade** (Figure 26).

NOTE: Make sure you replace the drive belt only with a replacement belt from the factory.

5. To assemble the **drive belt**, reverse the above steps.
6. Set the belt tension.
 - a. Tighten the **adjuster nut** until the nut touches the **spacer** (Figure 27). Try to turn the **spacer**. When the **adjuster nut** touches the **spacer**, the **spacer** will not turn.
 - b. Then, loosen the **adjuster nut** only enough to allow the **spacer** to turn. The tension on the **drive belt** is now correct.
7. Install the **belt cover** (Figure 24).
8. Before you begin to mow, make sure the drive system will correctly disengage and that the mower will stop. If the drive system will not disengage, take the mower to an authorized service center before you operate the mower.



MAINTENANCE

HOW TO ADJUST THE DRIVE CABLE



WARNING: Before you adjust the drive cable, release the engine stop lever and wait for the engine to stop.

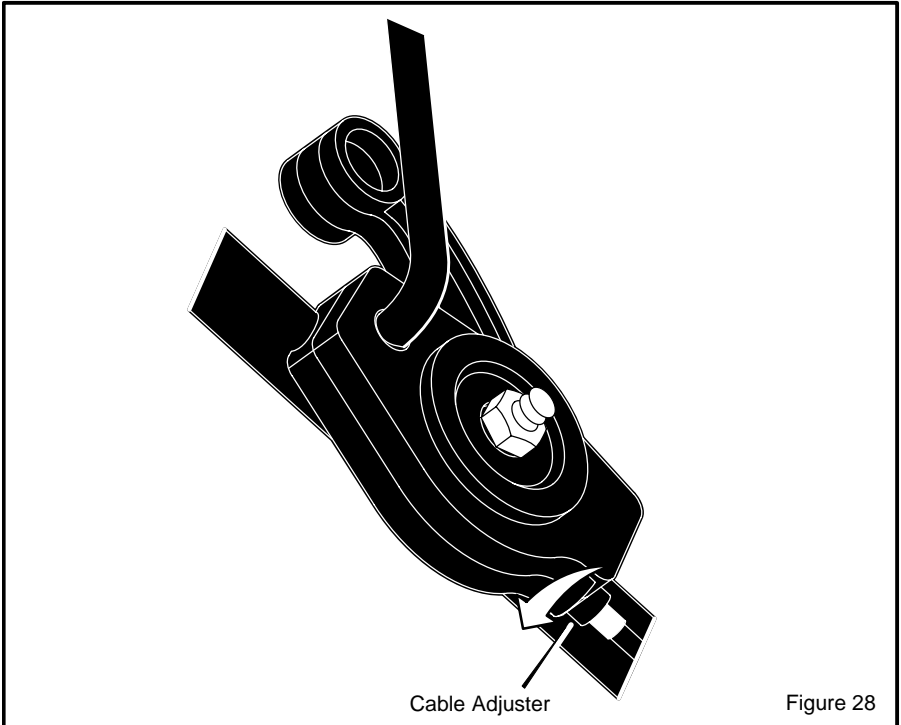
If the drive system does not engage and disengage correctly, check the handle for correct assembly. Make sure that all parts are in good condition, not broken or bent, and that all fasteners are tight.

Worn parts and cable stretch will change the performance of the drive system. When you mow in high or thick grass or on hills, the drive system can slip. If the drive system is slipping, adjust as follows or take the mower to an authorized service center.

IMPORTANT: Before you start the engine, operate the engine stop lever several times. Make sure the engine stop cable moves freely.

NOTE: The engine design does not include a throttle control or an engine speed adjustment. The engine is set at the best speed for cutting grass, bagging grass, and for extended engine life.

1. If the drive system is slipping, turn the **cable adjuster** one turn in the direction shown in Figure 28. Test the drive system and check for slippage.
2. If the drive system still slips, turn the **cable adjuster** one more turn to shorten the cable. Again, test the drive system.
3. Repeat the adjustment and test until the drive system does not slip.
4. Before you begin to mow, make sure the drive system will correctly disengage and that the mower will stop. If the drive system will not disengage, take the mower to an authorized service center before you operate the mower.



Cable Adjuster

Figure 28

MAINTENANCE

BLADE SERVICE



WARNING: Before you inspect the blade or the blade adapter, disconnect the wire to the spark plug. If the blade hits an object, stop the engine. Disconnect the wire to the spark plug. Check the unit for damage.

Frequently check the blade for wear or damage such as cracks. Frequently check the bolt that holds the blade. Keep the bolt tight. If the blade hits an object, stop the engine. Disconnect the wire to the spark plug. Check the blade adapter for damage. Check for a bent or damaged blade, a badly worn blade, or other damage. Before you operate the unit, damaged parts must be replaced with factory replacement parts. For safety, replace the blade every two years. Keep a sharp edge on the blade. A blade that is not sharp will cause the ends of the grass to become brown. Remove the blade as follows.

HOW TO REMOVE THE BLADE

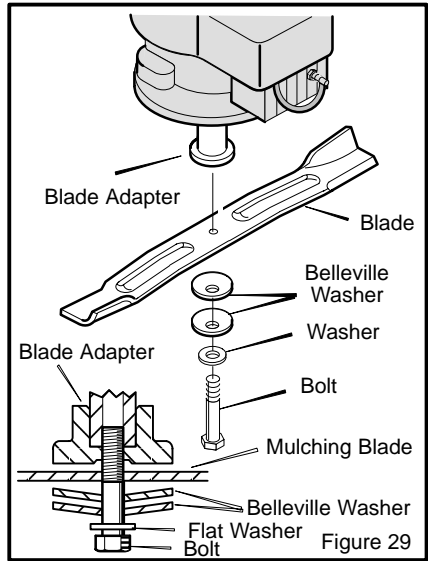


WARNING: Before you remove the blade, disconnect the wire to the spark plug. The blade has sharp edges. When you hold the blade, use gloves or cloth material to protect your hands.

1. Drain the fuel tank.
2. Lift the side of the mower that has the muffler or spark plug.
3. Use a piece of wood to keep the blade from rotating.
4. Remove the **bolt** that holds the **blade**.
5. Check the blade according to the "Blade Service" instructions. Replace a badly worn or damaged blade with a factory replacement blade.
6. Mount the blade with the curved edges toward the housing. If the blade is upside down, the blade will not cut correctly and can cause an accident.
7. Fasten the **blade** with the original **washers** and **bolt**. Make sure the outside rims of the **Belleville washers** are toward the **blade** (Figure 29).
8. Tighten the **bolt** that holds the **blade** to a torque of 30 foot pounds.



WARNING: Always keep the bolt that holds the blade tight. A loose bolt or blade can cause an accident.



HOW TO SHARPEN THE BLADE

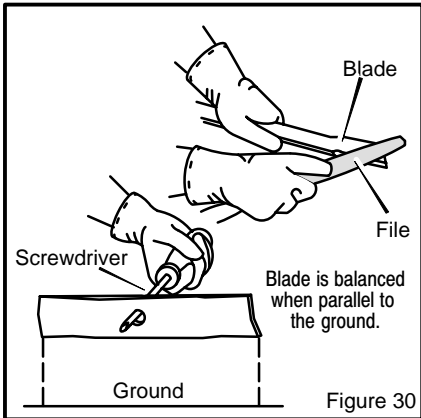


WARNING: Vibration is the result if the blade is not correctly balanced. A blade that is damaged with cracks can break and cause an accident.

1. Sharpen the blade two times a year or every 25 hours.
2. If the blade is on the unit, do not sharpen. Remove the blade according to the instructions in "How To Remove The Blade".
3. Clean the blade with a brush, soap, and water. Check the blade. Look for cracks, nicks, or other damage. Replace a blade that is badly worn, bent, or damaged with a factory replacement blade.
4. Sharpen the **blade** with a **file**. Make sure you keep the original beveled cutting edge (Figure 30).
5. Make sure the **blade** is balanced. Use a **screwdriver** and hold the blade parallel to the ground as shown. A blade that is balanced will stay parallel to the ground. If the blade is not balanced, the heavy end will rotate toward the ground. Sharpen the heavy end until the blade is balanced.
6. A new blade will cut better than a badly worn blade. Every two years replace the old blade with a factory replacement blade.

(Continued following page)

MAINTENANCE



CHECK THE LEVEL OF CUT

Test the unit in a small area. If the height of cut is not level or if the cut grass is not discharged, the cause can be: (1) the blade is bent or damaged, (2) the blade is not sharp, (3) a worn blade, (4) or a broken **blade adapter**. Before you use the unit, correct the problem.

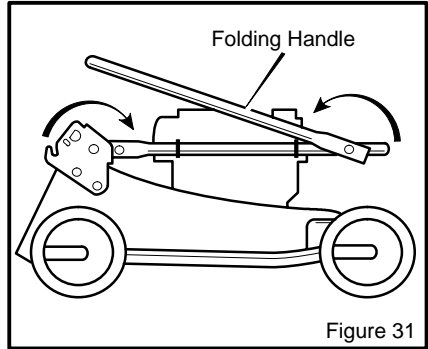
STORAGE FOR HANDLES THAT FOLD

CAUTION: Be careful when you fold or raise the handle. Do not damage the cables. A cable that is bent will not work correctly. Before you use the unit, replace a bent or damaged cable.

How To Fold The Handle

1. Loosen the fasteners that hold the upper part of the handle to the lower part of the handle. As you fold the handle, make sure the cables are not around the loose fasteners and do not become damaged. Rotate the upper part of the handle back (Figure 31).
2. Loosen the knobs on the lower handle. Push in on the ends of the lower handle.

3. Rotate the handle forward over the engine as shown. Make sure the cables are not damaged.



How To Raise The Handle

1. Pull the handle back until the ends of the lower handle lock into position. Tighten the knobs.
2. Lift the upper part of the handle into the operator's position. Tighten the fasteners that hold the handle.

STORAGE FOR NON-FOLDING UPPER HANDLES

For storage, fold the handle forward.

How To Fold The Handle

1. Push in on the ends of the lower handle. Move the ends of the lower handle past the locking tabs.
2. Rotate the handle forward over the engine. Make sure the cables are not damaged.

How To Raise The Handle

1. Pull the handle back until the ends of the lower handle lock into position.

HOW TO PREPARE THE MOWER FOR STORAGE



WARNING: Do not remove gasoline while inside a building, near a fire, or while you smoke. Gasoline fumes can cause an explosion or a fire.

1. Drain the fuel tank.
2. Let the engine run until it is out of gasoline.
3. Drain the oil from the warm engine. Fill the engine crankcase with new oil.
4. Remove the spark plug from the cylinder.
5. Pour one ounce of oil into the cylinder. Slowly pull the recoil-start grip so that the oil will protect the cylinder. Install a new spark plug in the cylinder.
6. Clean the dirt and debris from the cylinder cooling fins and the engine housing.
7. Clean the bottom of the mower housing.
8. Make sure the grass bag is empty of grass. Grass remaining in the bag during storage will damage the bag.
9. Completely clean the mower to protect the paint.
10. Put the unit in a building that has good ventilation.

TROUBLE SHOOTING CHART

The Engine will not start.

1. Move the throttle control lever to the FAST or START position.
2. Make sure the fuel tank is filled with clean gasoline. Do not use old gasoline.
3. On a cold engine, push the primer button (optional on some models) five times.
4. Make sure the wire for the spark plug is connected to the spark plug.
5. Adjust the Carburetor. See the "Engine Instruction Book".
6. There is too much gasoline in the engine cylinder. Remove and dry the spark plug. Put the throttle control in the SLOW position. Pull the recoil-start grip several times. Install the spark plug. Connect the wire to the spark plug. Start the engine.
7. The engine is difficult to start in heavy or high grass. Move the mower to a clean dry surface.
8. Make sure the engine stop lever is in the operating position.
9. Make sure the fuel valve is in the ON position. See the "Engine Instruction Book".
10. On electric start models, make sure the wiring harness is connected. Charge the battery.

The Engine will not stop.

1. Release the engine stop lever.
2. Check the engine stop cable. Replace the cable if bent or damaged.

The Engine performance is bad.

1. Check the height of cut settings. Raise the height of cut if the grass is high.
2. Check the bottom of the blade housing. Clean the blade housing of grass and other debris.
3. Check the wire to the spark plug. Make sure the wire is connected.
4. Clean the engine cooling fins of grass and other debris.
5. Check the carburetor adjustments. See the "Engine Instruction Book".
6. Check the spark plug gap. Set the spark plug gap at 0.030".
7. Check the amount of oil in the engine. Fill with oil if necessary.
8. Check the engine air cleaner. See the "Engine Instruction Book".
9. The gasoline is bad. Drain and clean the fuel tank. Fill the fuel tank with clean gasoline.
10. Check the throttle control. Make sure the lever is not in the CHOKE position.

Excessive Vibration.

1. Remove the blade. Check the blade and balance if necessary. See the blade maintenance instructions.
2. Check for a bent or broken blade. A DAMAGED BLADE IS DANGEROUS AND MUST BE REPLACED.
3. Check the blade adapter. REPLACE A BROKEN BLADE ADAPTER.
4. If the vibration continues, take the mower to an Authorized Service Center.

The grass will not discharge correctly.

1. Clean the bottom of the mower housing.
2. Check for a badly worn blade. Remove and sharpen the blade. For safety, replace the blade every two years with a factory replacement blade.
3. Move the throttle control lever to the FAST position. Check the speed of the engine according to the "Engine Instruction Book".

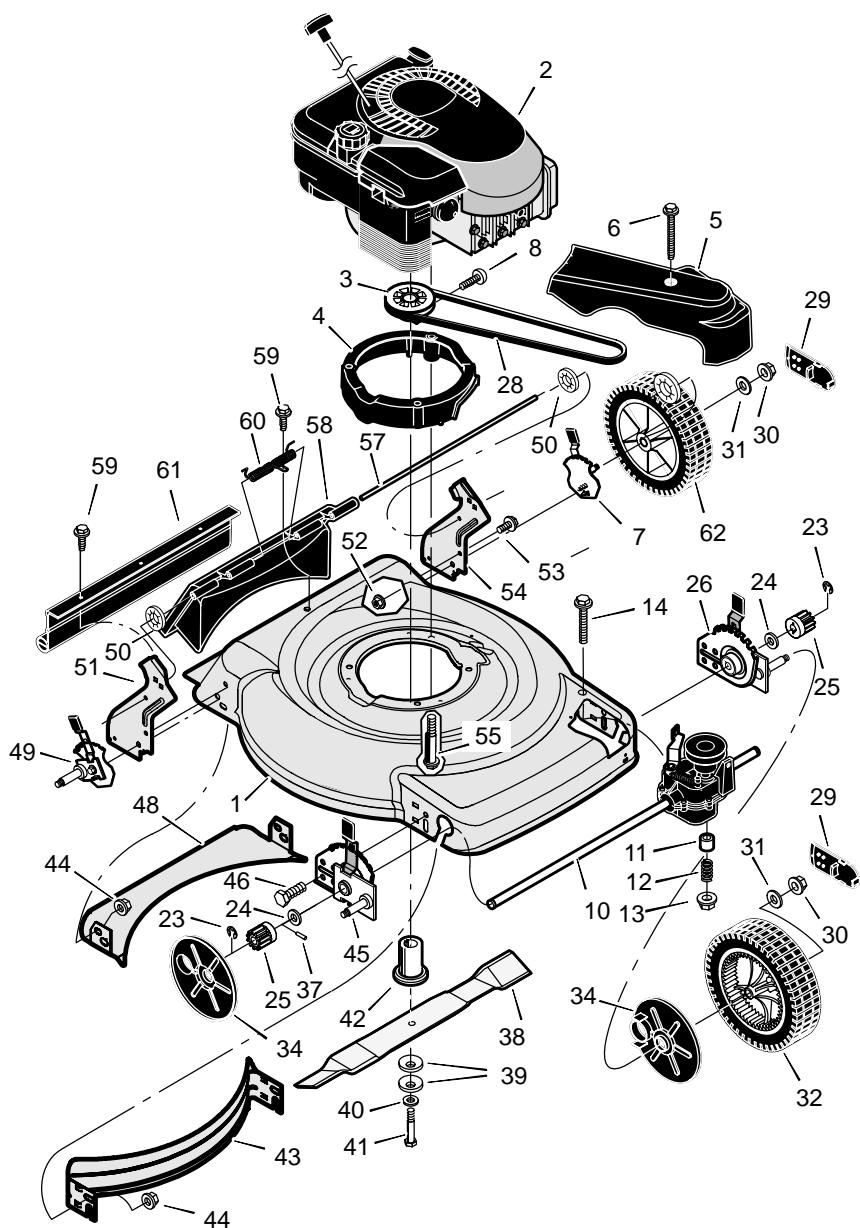
The grass is not cut even.

1. Check the height adjustment at each wheel. The height adjustment must be the same for each wheel.
2. Make sure the blade is sharp.
3. Check for a bent or broken blade. A DAMAGED BLADE IS DANGEROUS AND MUST BE REPLACED.
4. Check for a broken blade adapter. REPLACE A BROKEN BLADE ADAPTER.

NOTES

NOTES

MULCHER MODELS



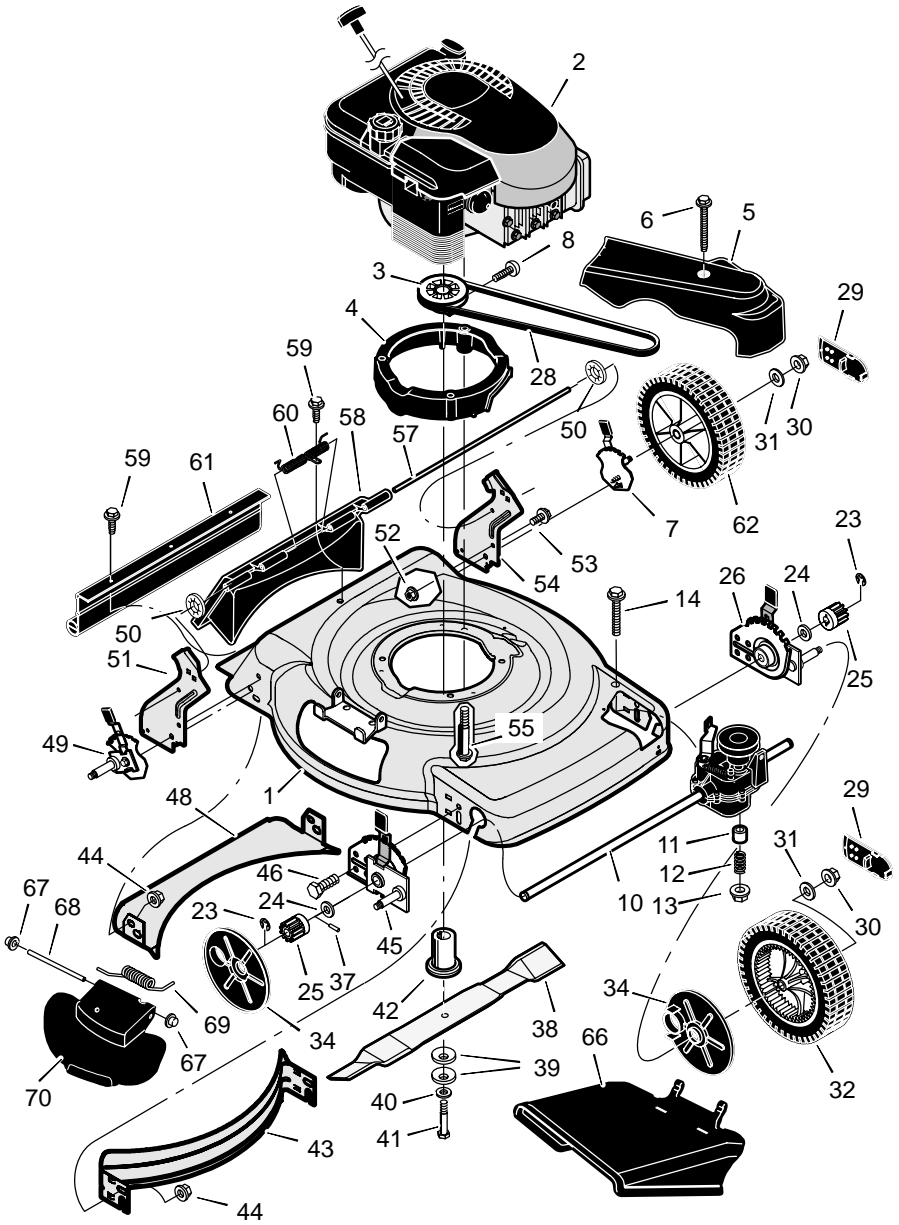
MULCHER MODELS

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	1101340E717	Housing	37	043629	Pin, Drive
2	-----	Engine *	38	1101120E701	Blade
3	1101653	Pulley, Drive	39	17x137	Washer, Belleville
4	1101331	Spacer, Engine (Black)	40	17x124	Washer
	1101332	Spacer, Engine (Gray)	41	01x144	Bolt
5	1101596	Cover, Belt (Black)	42	1101336	Adapter, Blade
	1101568	Cover, Belt (Gray)	43	672915E700	Baffle, Front **
6	26x304	Screw	44	015x68	Nut, Flange
7	672605	Adjuster, Left Rear Height	45	1101028	Adjuster, Right Front Height
8	26x303	Screw	46	001x85	Bolt
10	1101571	Transmission - Note: There are no internal serviceable parts for the transmission.	48	672916E700	Baffle, Rear **
			49	672604	Adjuster, Right Rear Height
11	043844	Spacer	50	028x49	Retainer, Push
12	164x27	Spring, Compression	51	1101238E701	Bracket, Right Handle
13	015x88	Nut	52	015x79	Nut, Flange
14	01x156	Bolt	53	001x45	Bolt
23	011x16	E-Ring	54	1101239E701	Bracket, Left Handle
24	17x186	Washer	55	025x11	Bolt, Engine
25	071792	Gear, Pinion	57	215x21	Rod, Pivot
26	1101029	Adjuster, Left Front Height	58	672611	Door, Rear (Black)
				672713	Door, Rear (Gray)
28	37x123	Belt	59	26x245	Screw
29	672122	Cap, Hub	60	166x44	Spring
30	015x84	Nut, Flange	61	1101105	Guard, Rear
31	17x169	Washer	62	071132	Wheel & Tire, Rear
32	071133	Wheel & Tire, Front	--	F-040411L	Book, Instruction
34	071780	Cover, Dust			

* Parts are available from an Authorized Engine Service Center. See "Engines, Gasoline" or "Gasoline Engines" in the yellow pages of the telephone directory.

** Included with Housing, Key No. 1.

SIDE DISCHARGE MODELS



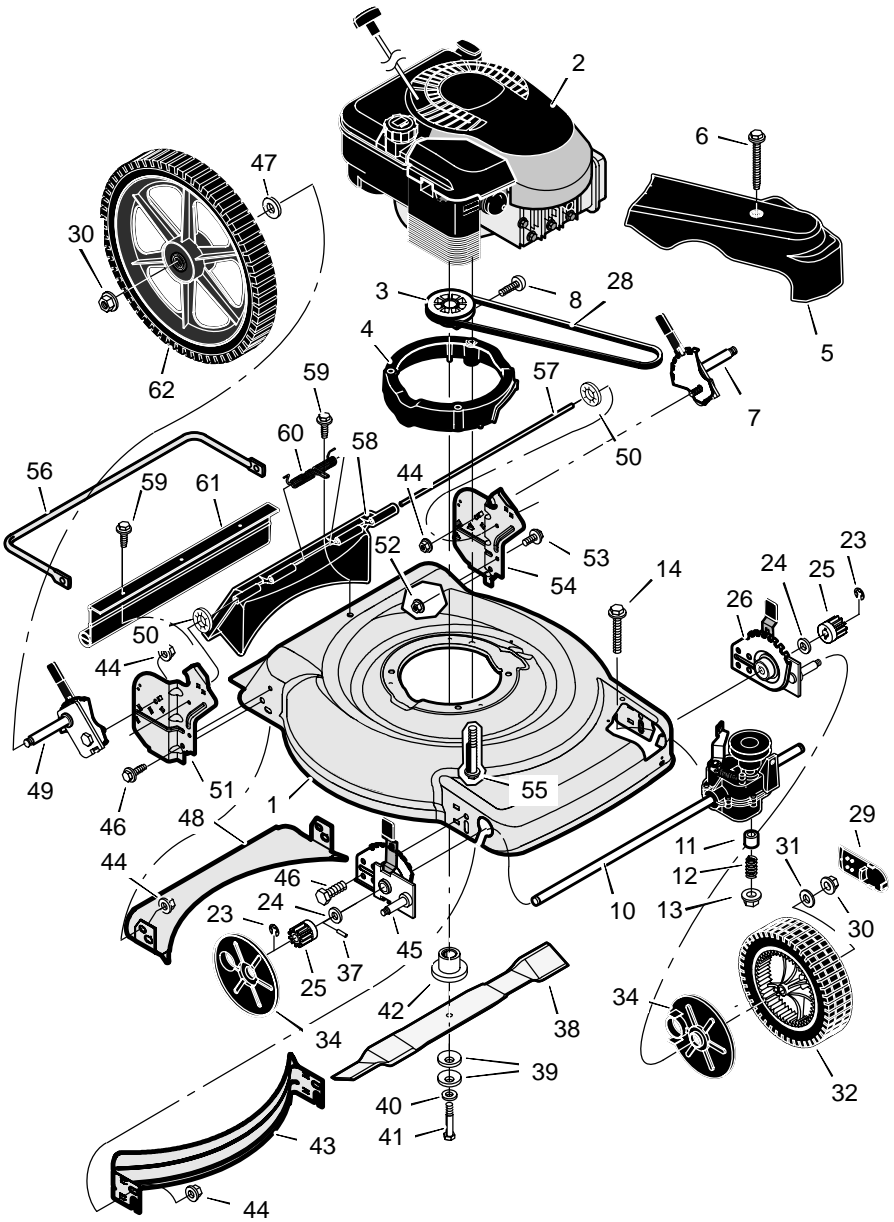
SIDE DISCHARGE MODELS

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	1101340E717	Housing	40	17x124	Washer
2	-----	Engine *	41	01x144	Bolt
3	1101653	Pulley, Drive	42	1101336	Adapter, Blade
4	1101331	Spacer, Engine (Black)	43	672915E700	Baffle, Front **
	1101332	Spacer, Engine (Gray)	44	015x68	Nut, Flange
5	1101596	Cover, Belt (Black)	45	1101028	Adjuster, Right Front Height
	1101568	Cover, Belt (Gray)	46	001x85	Bolt
6	26x304	Screw	48	672916E700	Baffle, Rear **
7	672605	Adjuster, Left Rear Height	49	672604	Adjuster, Right Rear Height
8	26x303	Screw	50	028x49	Retainer, Push
10	1101571	Transmission - Note: There are no internal serviceable parts for the transmission.	51	1101238E701	Bracket, Right Handle
			52	015x79	Nut, Flange
11	043844	Spacer	53	001x45	Bolt
12	164x27	Spring, Compression	54	1101239E701	Bracket, Left Handle
13	15x88	Nut	55	025x11	Bolt, Engine
14	01x156	Bolt	57	215x21	Rod, Pivot
23	011x16	E-Ring	58	672611	Door, Rear (Black)
24	17x186	Washer		672613	Door, Rear (Gray)
25	071792	Gear, Pinion	59	26x245	Screw
26	1101029	Adjuster, Left Front Height	60	166x44	Spring
			61	1101105	Guard, Rear
28	37x123	Belt	62	071132	Wheel & Tire, Rear
29	672122	Cap, Hub	66	1101097	Deflector, Chute (Black)
30	015x84	Nut, Flange		672917	Deflector, Chute (Gray)
31	17x169	Washer	67	028x42	Push On Cap
32	071133	Wheel & Tire, Front	68	215x19 Z	Rod, Pivot
34	071780	Cover, Dust	69	166x38	Spring, Torsion
37	043629	Pin, Drive	70	1101098	Cover, Mulch (Black)
38	1101120E701	Blade		672920	Cover, Mulch (Gray)
39	17x137	Washer, Belleville	--	F-040411L	Book, Instruction

* Parts are available from an Authorized Engine Service Center. See "Engines, Gasoline" or "Gasoline Engines" in the yellow pages of the telephone directory.

** Included with Housing, Key No. 1.

MULCHER MODELS WITH 14" REAR WHEELS



MULCHER MODELS WITH 14" REAR WHEELS

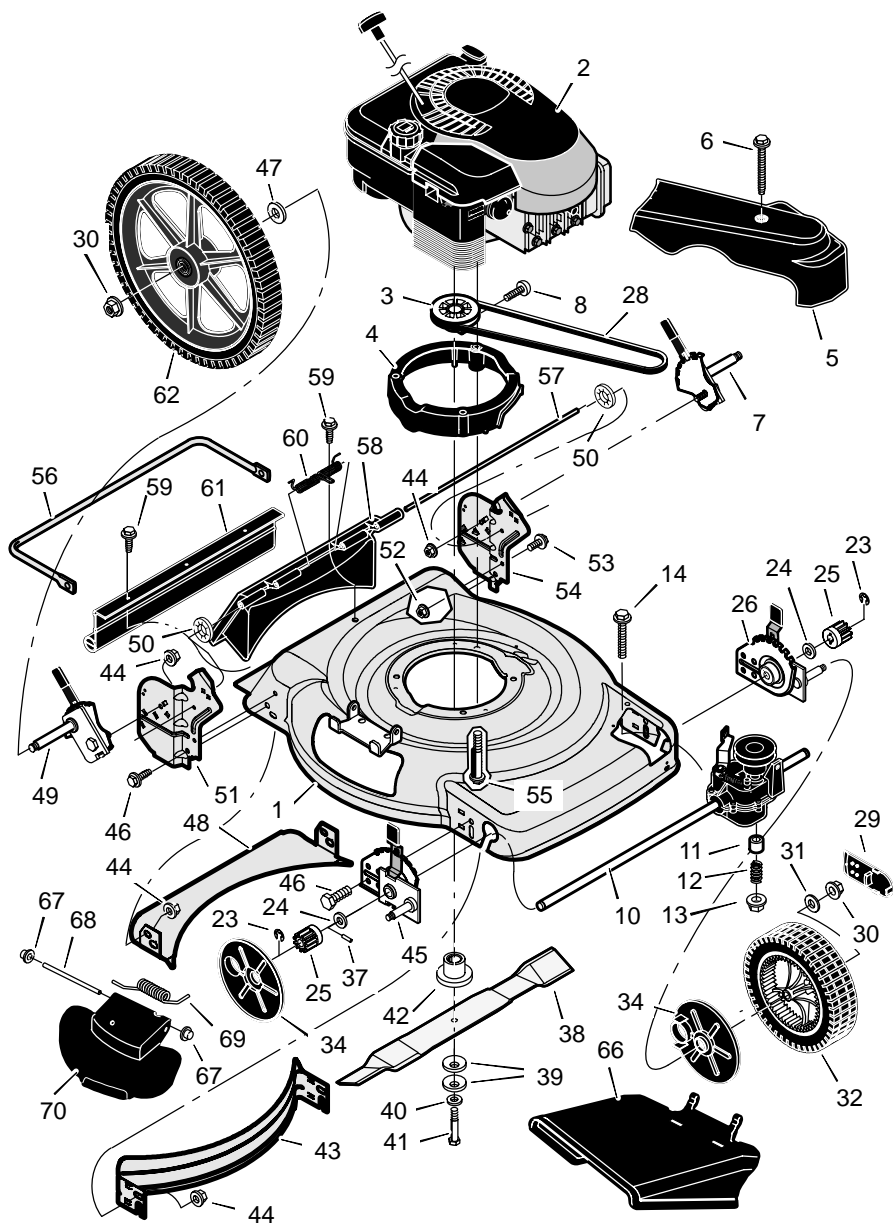
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	-----	Housing	38	1101120E701	Blade
2	-----	Engine *	39	17x137	Washer, Belleville
3	1101653	Pulley, Drive	40	17x124	Washer
4	1101331	Spacer, Engine (Black)	41	01x144	Bolt
	1101332	Spacer, Engine (Gray)	42	1101336	Adapter, Blade
5	1101596	Cover, Belt (Black)	43	672915E700	Baffle, Front **
	1101568	Cover, Belt (Gray)	44	015x68	Nut, Flange
6	26x304	Screw	45	1101028	Adjuster, Right Front Height
7	672919	Adjuster, Left Rear Height	46	001x85	Bolt
8	26x303	Screw	47	0020x3	Washer
10	1101571	Transmission - Note: There are no internal serviceable parts for the transmission.	48	672916E700	Baffle, Rear **
			49	672918	Adjuster, Right Rear Height
11	043844	Spacer	50	028x49	Retainer, Push
12	164x27	Spring, Compression	51	1101244E701	Bracket, Right Handle
13	015x88	Nut	52	015x68	Nut, Flange
14	01x156	Bolt	53	001x85	Bolt
23	011x16	E-Ring	54	1101245E701	Bracket, Left Handle
24	17x186	Washer	55	025x11	Bolt, Engine
25	071792	Gear, Pinion	56	1101008E701	Brace
26	1101029	Adjuster, Left Front Height	57	215x21	Rod, Pivot +
28	37x123	Belt	58	1101070	Door, Rear (Black)
29	672122	Cap, Hub		672613	Door, Rear (Gray)
30	015x84	Nut, Flange	59	26x245	Screw
31	17x169	Washer	60	166x44	Spring +
32	071133	Wheel & Tire, Front	61	672684	Guard, Rear
34	071780	Cover, Dust	62	071841	Wheel & Tire, Rear
37	043629	Pin, Drive	--	F-040411L	Book, Instruction

* Parts are available from an Authorized Engine Service Center. See "Engines, Gasoline" or "Gasoline Engines" in the yellow pages of the telephone directory.

** Included with Housing, Key No. 1.

+ Included with Key No. 58.

SIDE DISCHARGE MODELS WITH 14" REAR WHEELS



SIDE DISCHARGE MODELS WITH 14" REAR WHEELS

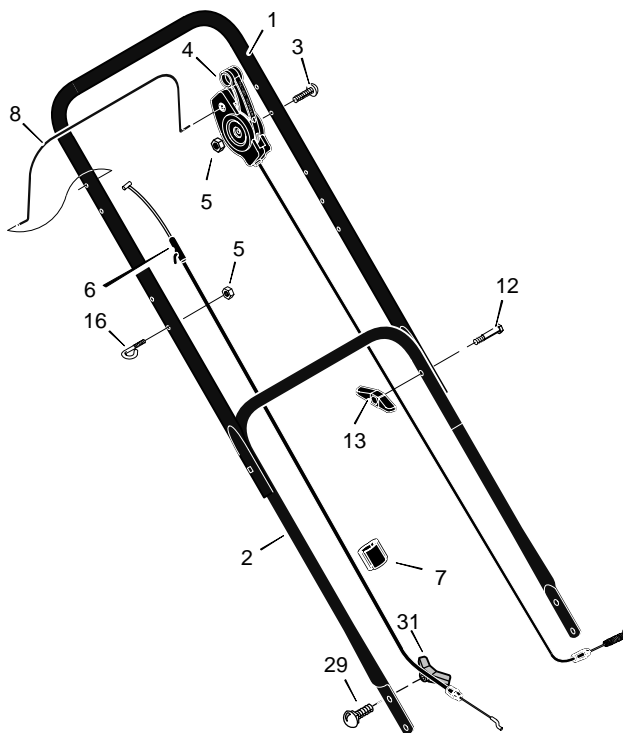
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	1101340E717	Housing	41	01x144	Bolt
2	-----	Engine *	42	1101336	Adapter, Blade
3	1101653	Pulley, Drive	43	672915E700	Baffle, Front **
4	1101331	Spacer, Engine (Black)	44	015x68	Nut, Flange
	1101332	Spacer, Engine (Gray)	45	1101028	Adjuster, Right Front Height
5	1101596	Cover, Belt (Black)	46	001x85	Bolt
	1101568	Cover, Belt (Gray)	47	0020x3	Washer
6	26x304	Screw	48	672916E700	Baffle, Rear **
7	672919	Adjuster, Left Rear Height	49	672918	Adjuster, Right Rear Height
8	26x303	Screw	50	028x49	Retainer, Push
10	1101571	Transmission - Note: There are no internal serviceable parts for the transmission.	51	1101244E701	Bracket, Right Handle
11	043844	Spacer	52	015x68	Nut, Flange
12	164x27	Spring, Compression	53	001x85	Bolt
13	015x88	Nut	54	1101245E701	Bracket, Left Handle
14	01x156	Bolt	55	025x11	Bolt, Engine
23	011x16	E-Ring	56	1101008E701	Brace
24	17x186	Washer	57	215x21	Rod, Pivot +
25	071792	Gear, Pinion	58	1101070	Door, Rear (Black)
26	1101029	Adjuster, Left Front Height		672613	Door, Rear (Gray)
28	37x123	Belt	59	26x245	Screw
29	672122	Cap, Hub	60	166x44	Spring +
30	015x84	Nut, Flange	61	672684	Guard, Rear
31	17x169	Washer	62	071841	Wheel & Tire, Rear
32	071133	Wheel & Tire, Front	66	1101097	Deflector, Chute (Black)
34	071780	Cover, Dust		672917	Deflector, Chute (Gray)
37	043629	Pin, Drive	67	028x42	Push On Cap
38	1101120E701	Blade	68	215x19 Z	Rod, Pivot
39	17x137	Washer, Belleville	69	166x38	Spring, Torsion
40	17x124	Washer	70	1101098	Cover, Mulch (Black)
				672920	Cover, Mulch (Gray)
			--	F-040411L	Book, Instruction

* Parts are available from an Authorized Engine Service Center. See "Engines, Gasoline" or "Gasoline Engines" in the yellow pages of the telephone directory.

** Included with Housing, Key No. 1.

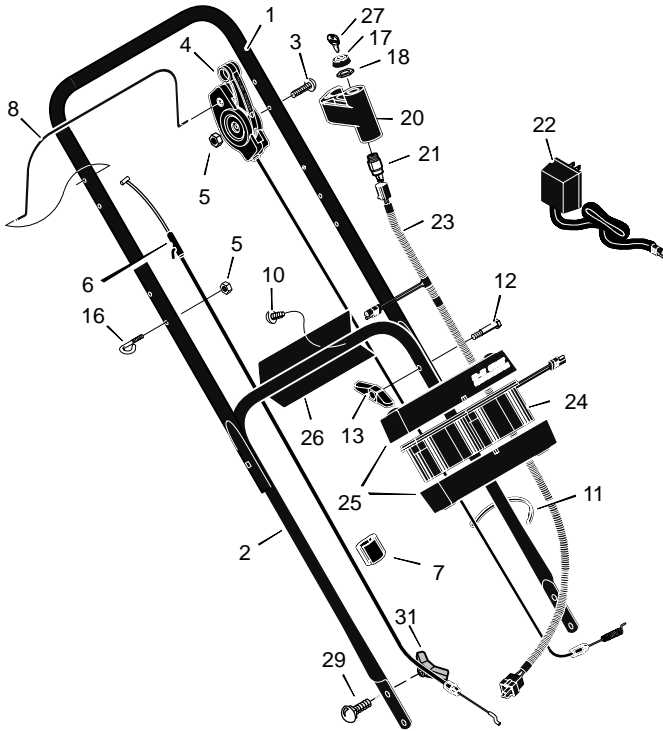
+ Included with Key No. 58.

HANDLE - RECOIL-START MODELS



KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	1101557E701 1101557E724	Handle, Upper (Black) Handle, Upper (Gray)	7	1101353	Fastener, Double Cable
2	672906E701 672906E724	Handle, Lower (Black) Handle, Lower (Gray)	8	1101076E701	Lever, Stop
3	025x14	Bolt	12	002x77	Bolt
4	1101670	Control, Drive	13	071294	Knob
5	15x116	Locknut	16	071530	Guide, Rope
6	1101365 1101366	Cable, Stop (Briggs) Cable, Stop, (Tecumseh)	29	002x81	Bolt, Carriage
			31	071495	Knob, Plastic

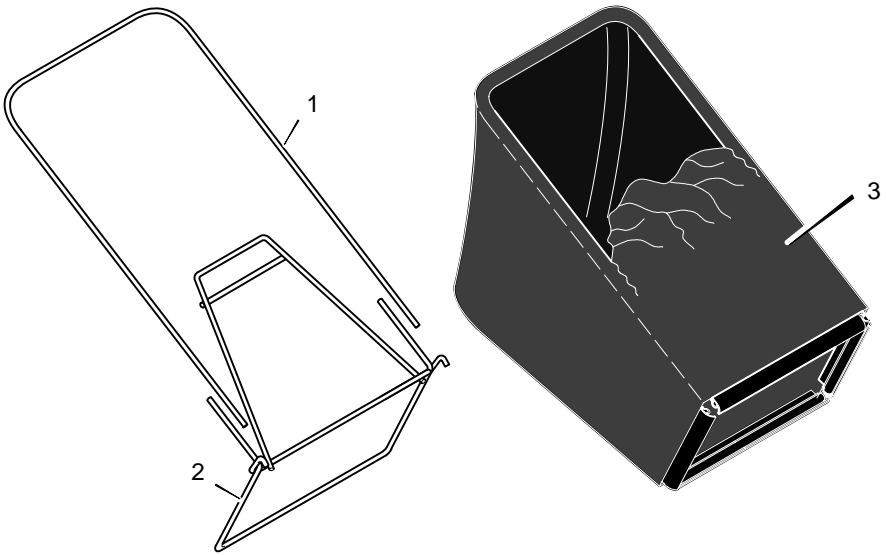
HANDLE - ELECTRIC-START MODELS



KEY NO.	PART NO.	DESCRIPTION
1	1101557E701	Handle, Upper (Black)
	1101557E724	Handle, Upper (Gray)
2	672907E701	Handle, Lower (Black)
	672907E724	Handle, Lower (Gray)
3	025x14	Bolt
4	1101670	Control, Drive
5	15x116	Locknut
6	1101365	Cable, Stop (Briggs)
	1101366	Cable, Stop (Tecumseh)
7	1101353	Fastener, Double Cable
8	1101076E701	Lever, Stop
10	26x220	Screw
11	071372	Fastener, Cable
12	002x77	Bolt
13	071294	Knob

KEY NO.	PART NO.	DESCRIPTION
16	071530	Guide, Rope
17	091488	Cap
18	091489	Nut
20	1101602	Cover, Ignition
21	776011	Switch Ignition & Key
22	671992	Charger, Battery
23	250x110	Harness, Wiring
24	776014	Battery
25	776013	Case, Battery
26	671959E701	Bracket, Battery
27	672220	Key, Ignition
29	002x81	Bolt, Carriage
31	071495	Knob, Plastic

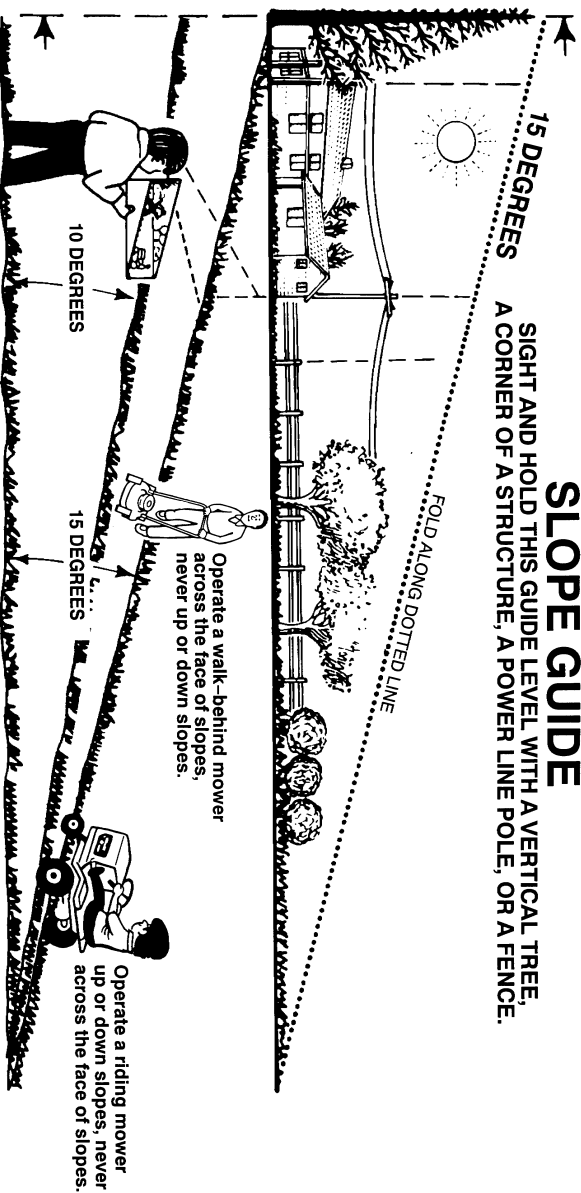
GRASS BAG



KEY NO.	PART NO.	DESCRIPTION
1	1101075	Tube, Bag
2	1101074	Frame Assembly
3	1101005	Bag, Cloth

SLOPE GUIDE

SIGHT AND HOLD THIS GUIDE LEVEL WITH A VERTICAL TREE, A CORNER OF A STRUCTURE, A POWER LINE POLE, OR A FENCE.



Operate a walk-behind mower across the face of slopes, never up or down slopes.

Operate a riding mower up or down slopes, never across the face of slopes.

On a riding mower to determine if a slope is safe to mow: (1) disengage the blade(s), (2) put the unit in reverse, and (3) try to back straight up the slope. If you can back up the slope, it is generally safe to mow. However, if you do not feel safe, or if you are not completely sure, use this guide and do not mow a slope that is greater than 15 degrees. If the riding mower is used with a pull-behind or rear mounted attachment, do not operate the unit on a slope that is greater than 10 degrees.

A 15 degree slope is a hill that increases in height at approximately 2.5 feet in 10 feet.
A 10 degree slope is a hill that increases in height at approximately 1.7 feet in 10 feet.



Use extreme care at all times, and avoid sudden turns or maneuvers. Follow other instructions in this manual for safety in mowing on slopes. Operate a riding mower up or down slopes, never across the face of slopes. Operate a walk-behind mower across the face of slopes, never up or down slopes. Use extra care when operating on or near slopes and obstructions.

..... CUT HERE TO USE SLOPE GUIDE

HOW TO ORDER REPAIR PARTS

Only use a factory repair part. Repair parts, except for the engine or the transmission, are available from the store where the unit was purchased, a service shop recommended by the store, or an authorized service shop found in the yellow pages of the telephone directory. If you cannot get a repair part or service as described above, call or write to the Central Parts Distributor shown below. When you order, include the following information: (1) Complete Model Number (see nameplate), (2) Date of Manufacture, (3) Complete Part Number, (4) Description, (5) Quantity.

Repair parts for the engine or the transmission are available from the manufacturer's authorized service center found in the yellow pages of the telephone directory. See the individual engine or transmission warranties.

MURRAY, INC. LAWN MOWER CENTRAL PARTS DISTRIBUTORS

BILLIOU'S, INC.

1343 South Main St.
Porterville, CA. 93257
(559)784-4102 1-877-245-5468
FAX 1-800-266-7337

**Arizona, California, Hawaii,
Nevada**

BROWN & WISER, INC.

9991 S.W. Avery Street
Tualatin, OR. 97062
(503)692-0330 1-800-882-4782
FAX (503)691-2041

Alaska, Idaho (counties Ada, Adams, Benewah, Boise, Bonner, Boudry, Canyon, Clearwater, Elmore, Gem, Idaho, Kooten, Latah, Lewis, NEZ Perce, Owyee, Payette, Ravalli, Shoshone, Valley, Washington), **Montana** (counties Flathead, Lake, Lincoln, Mineral, Missoulo, Ravalli, Sanders), **Oregon, Washington**

CPT CANADA POWER TECHNOLOGY LIMITED

Mississauga
161 Watline Avenue
Mississauga, Ontario
L4Z-1P2
(905)890-6900 1-800-861-9559

Edmonton

101-10411-178 Street
Edmonton, Alberta
T5S 1R5
(780)453-5791 1-800-861-9559

Ville St-Laurent

234 Mignerone Street
Ville St-Laurent, Quebec
H4T 1Y7
(514)731-3559 1-800-861-9559
Canada

FRANK EDWARDS CO.

3626 Parkway Blvd.
West Valley City, UT 84120
1-800-318-0201
FAX (801)736-8067

Colorado, Idaho (counties Bannock Bearlake, Bingham, Blaine, Booneville, Butte, Camas, Caribou, Cassia, Custer, Franklin, Fremont, Gooding, Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Power, Teton, Twin Falls) **Montana** (all counties except Flathead, Lake, Lincoln, Mineral, Missoulo, Ravalli, Sanders), **Utah, Wyoming**

GARDNER, INC.

3641 Interchange Road
Columbus, OH. 43204-1499
1-800-848-8946
FAX 1-800-626-4735

Alabama, Arkansas, (except these counties: Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Sevier), **Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois** (South of Hwy. 80), **Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan** (except upper Peninsula), **Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia**

Puerto Rico

GULF COAST ENGINE, INC.

4202 Russell Dr.
Corpus Christi, TX. 78408
1-800-825-6999
FAX (888)888-7036

Arkansas (counties Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Sevier) **New Mexico, Oklahoma, Texas, Mexico**

WISCONSIN MAGNETO

4727 N. Teutonia Ave.
Milwaukee, WI. 53209
1-800-733-7388
FAX 1-800-733-0127

Illinois (N. of Hwy. 80), **Michigan** (upper Peninsula), **Minnesota, North Dakota, South Dakota, Wisconsin**